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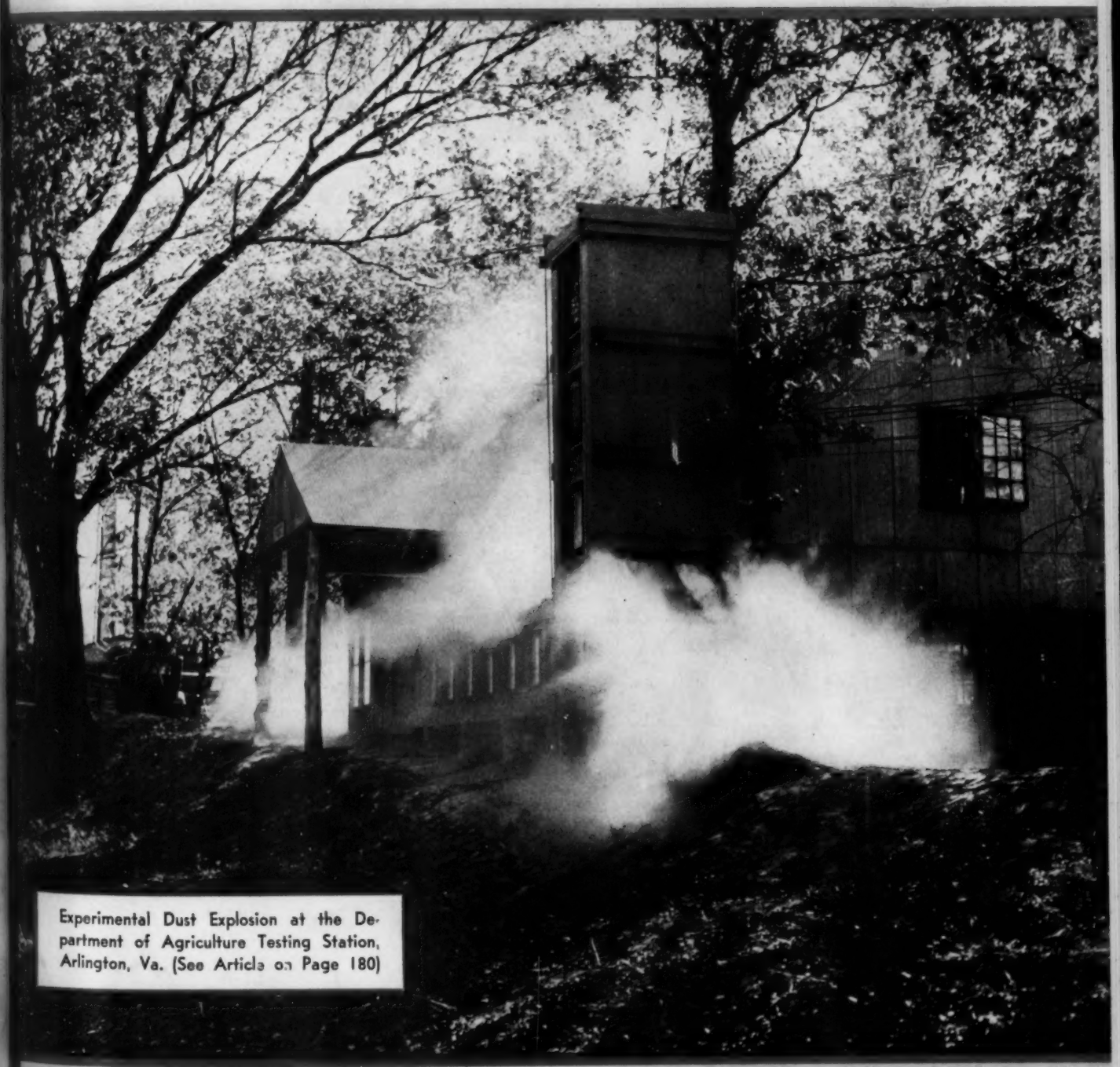
The Journal of the Fire Protection Profession Since 1877

Vol. 89, No. 5 MAY, 1936 Member A.B.C.—A.B.P.



Experimental Dust Explosion at the Department of Agriculture Testing Station, Arlington, Va. (See Article on Page 180)

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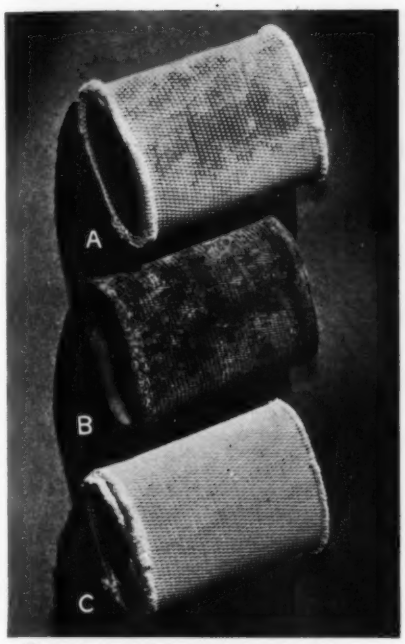

A Not processed for mildew protection.
B Processed for mildew protection by a competitor.
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Unretouched photo showing results after samples were saturated with water and exposed to moist atmosphere for six months.

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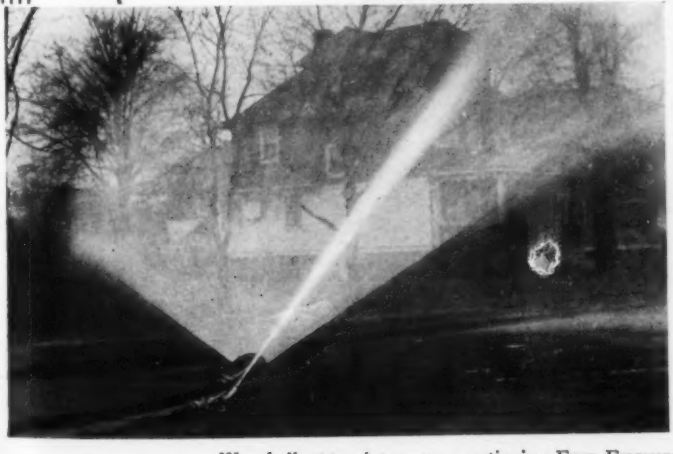

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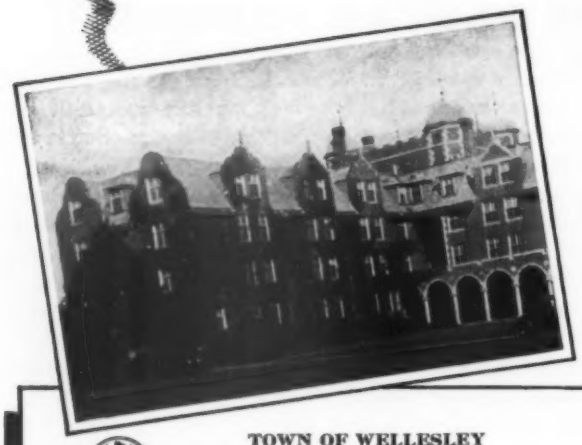
FAMOUS WOMEN'S COLLEGE *by* GAMEWELL SPRINKLER SUPERVISORY EQUIPMENT

Brings Fire Department to Dormitory Before Occupants Learn of Fire



WITHIN a few seconds after a sprinkler head operated in Cazenove Hall, Wellesley College, and deluged water upon a fire in a student's room, a *Multifold* Fire Alarm Box mounted outside the dormitory, tripped automatically and flashed its alarm directly to the Wellesley municipal fire department.

Firemen responding, arrived at the dormitory before the occupants were aware that a fire had broken out. The Rockwood sprinkler system had effectively extinguished the fire and the fire department immediately shut off the sprinklers and prevented unnecessary water damage.

The loss was confined to within $500.00, yet the building in which the fire occurred is one of four closely grouped dormitories housing more than 500 students and having an insurable value of about $2,000,000. Thus, the value of having the automatic sprinklers in each dormitory connected to the municipal fire alarm system is clearly evident.

This simple and practical connection, often referred to as the Gamewell *Sprinkler Watchman*, is an invaluable aid to every municipal fire department and a real protection to every sprinklered property.

Through the recommendations of many fire department and insurance officials, hundreds of these *Sprinkler Watchman* connections are now in service. Every fire chief and superintendent of fire alarm should encourage owners of sprinklered properties to connect their sprinkler systems with the municipal fire department in this *direct manner.* Write for a copy of our booklet FE1200 describing the *Sprinkler Watchman.*

TOWN OF WELLESLEY
FIRE DEPARTMENT
WELLESLEY, MASSACHUSETTS

THOMAS H. SLAMAN
CHIEF ENGINEER

The Gamewell Company
Newton Upper Falls
Massachusetts

Gentlemen:

The fire at Wellesley College on October 3rd recalls to my mind the questions that were raised in regard to the advisability of permitting this institution to be connected thru your master box to this department. While I was convinced, thru demonstrations made three years ago at the time this installation was made, that the plans to connect the sprinkler system at Wellesley College to the municipal fire alarm system by means of the Sprinklarm device and Master Fire Alarm Box was for the best interests of all concerned, I am frank to say that this practical experience has justified completely my confidence in the reliability of this device.

The experience of this department during the past three years has been entirely satisfactory, as no false alarms or other difficulties have been encountered.

The promptness of receiving the alarm on October 3rd at 5:22 P.M. which enabled my department to arrive at the college before any serious damage could materialize, either from the effect of the fire or the opening of the sprinkler system, causes me to emphasize the value of your automatic Sprinklarm device as the most direct and reliable means of summoning the aid of the fire department.

Our investigation of the fire disclosed that one of the students apparently had been smoking a cigarette and, while she claims to have extinguished it before leaving, still a waste paper basket full of papers had caught fire, spreading to a dresser and thus setting off a sprinkler head directly over the same. The occupants were not aware of any fire until the arrival of the fire department, altho they saw evidence of water leaking thru the walls. The response of the Sprinklarm was so instantaneous with the setting off of the sprinkler head that my department received the alarm thru your Master Box instantaneously, and we were on the grounds within a few minutes. While the sprinkler system had extinguished the fire, the department was able to immediately shut off the main sprinkler valve, thus bringing down the loss from the fire and the water to approximately $500.00.

I have no hesitation in recommending to my brother chiefs thruout the country the adoption of the policy of permitting Gamewell Master Boxes and Sprinklarms to be connected to their departments.

Very truly yours,

Thomas H. Slaman

Chief Engineer Fire Dept.

The effective manner in which Wellesley College officials protect the lives of their students against fire is clearly evident in Chief Thomas H. Slaman's account (above) of a fire which broke out in one of the college dormitories.

Chief Slaman is shown (right) alongside of the Gamewell fire alarm box on Cazenove Hall, the building in which the fire occurred. This box connects the sprinkler systems in four of the college's dormitories directly with the Wellesley fire headquarters.

PROOF!

Fire Chief Thomas H. Slaman contributes here, one more practical experience to the fast growing record establishing the importance of connecting sprinkler systems with fire headquarters through Gamewell's MULTIFOLD fire alarm boxes.

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FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 89 MAY, 1936 No. 5

With the Editor

What is the Solution? The Fire Chief of a small western city recently requested an appropriation from his city commission for replacing a worn out truck with a new machine. The commission suggested that a new motor and other parts be purchased to replace the damaged units on the old truck. The Chief pointed out that no parts had been made for the truck since the World War.

Similar situations must exist in many American Fire Departments today, for comparatively few trucks have been replaced during the past decade. Some Chiefs state that they are apprehensive every time an alarm comes in, for they never know how many of the machines sent to the fire will ever reach it. Others report that half their rolling stock passes through the repair shops each year.

The condition is becoming more aggravated as each year passes. The burden of taxation for relief makes it impossible for the average Fire Department to secure money for sorely needed apparatus.

What is the solution to the problem?

How can needed replacement units be secured?

Including an appropriation for new machines in the budget is one thing, but getting the money is another, for budget paring is still popular among city officials who know little or nothing of the need of dependability in fire equipment.

There appears a possibility that either or both of two plans now being tried in a few cities may offer an answer to the question, one particularly applicable to large, and the other, to small departments. The first has borrowed its name from Europe—a "five year plan." Under this scheme the most pressing needs are listed, and a definite program for meeting them over a five-year period is laid out. The annual outlay under this arrangement is thus made comparatively small, and hence the needed money is more likely to be secured.

The other plan, which is more suitable for the smaller community, consists of securing a small appropriation for equipment each year and setting aside the money until, over a period of a few years, sufficient has been accumulated to purchase a needed machine. The latter practice, where it is legal, should offer promise.

The problem of obsolete fire apparatus is rapidly becoming worse; a critical condition already exists in many cities, and unusual methods must be employed in remedying it. If not corrected, the splendid records of many Fire Departments in keeping losses down will be broken.

If, as politicians promise, we are on the threshold of a period of tremendous industrial activity, no time can be lost in bringing fire defenses back to normal.

Fred Sheppard

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Prevention of Dust Explosions

Helpful Knowledge Acquired As to Nature, Behavior and Effects of These Phenomena and Best Means of Avoiding Them

By Dr. DAVID J. PRICE
Principal Engineer in Charge, Bureau of Chemicals and Soils, U. S. Department of Agriculture

Dr. David J. Price

As the result of our research studies considerable knowledge concerning the nature and behavior of dust explosions during grain-handling and milling operations has been acquired. We also have been able to secure a better understanding of dust explosion hazards during fire-fighting operations when combustible dusts are present.

Technical knowledge regarding this important industrial explosion hazard, which affects more than 1,300,000 employees in their daily occupational duties, has been instrumental in the development of methods for control and prevention. The practical value of these precautionary measures is being carefully studied at the present time.

The economic significance of research work on dust explosion prevention can be more fully appreciated when we recognize that in the United States the dust explosion hazard exists in more than 28,000 manufacturing plants handling products principally of agricultural origin. In addition to these industrial plants, more than 25,000 country grain-handling plants, having a capacity of more than 700,000,000 bushels, are subject to grain-dust fires and explosions. These country (rural) elevators represent a capital investment of more than $450,000,000.

Extent of Dust Explosion Losses

In the last 19 years, the period for which accurate records are available, there have been at least 385 dust explosions in connection with the handling, milling, and processing of products largely of agricultural origin. In these explosions 311 persons have lost their lives, and more than 693 workmen have been injured. The property and stock losses (insurance paid) amounted to more than $35,000,000, an average loss of more than $90,000 for each explosion.

These explosions have occurred in practically all the grain-handling operations, such as grain elevators, flour and feed mills and starch factories, and in many industries associated with the processing of agricultural products such as sugar refining, the preparation of powdered milk and other food products, insecticides, fertilizers, wood pulp, wood dust, soap powder, paper dust, and many others.

The Chemical Engineering Division of the Bureau of Chemistry and Soils, U. S. Department of Agriculture, investigated 16 major dust explosions in industrial plants in 1934. These explosions can be analyzed as follows:

(1) They caused the loss of 27 lives, injuries to 52 other people, and property and stock damage of approximately $2,475,000. The average loss for each explosion was about $155,000, the range being from $800 to $700,000.

(2) They occurred in nine different types of industries—malt houses, wood working plants, terminal grain elevators, country (rural) grain elevators, feed mills, aluminum powder manufacture, insecticide manufacture, flour milling, and cocoa pulverizing.

(3) The causes of the explosions can be classified as follows:

Grinding and Pulverizing Operations	5
Fire Fighting Operations	2
Metallic Sparks	2
Friction Fires	2
Defective Extension Lamp	1
Backfire from Boiler	1
Static Electricity	1
Undetermined (attributed to electrical sources)	2
Total	16

Results of a Dust Explosion in a Starch Factory in the Middle West, in Which 43 Men Were Killed and Property Worth $3,000,000 Was Destroyed

Left—Firemen Fighting Fire, After Disastrous Explosion in Plant in Middle West. Right—Fire-Fighting Operations, Followng a Dust Explosion

(4) These explosions occurred in 11 different states: New York, Ohio, Texas, Illinois, Missouri, Maryland, Minnesota, Wisconsin, Tennessee, Virginia and Nebraska.

Dust Explosion Hazards During Fire-Fighting

Although dust explosions usually occur during the operation of industrial plants, a number of disastrous explosions resulting in the death or injury of firemen have occurred during fire-fighting operations. In general these explosions can be classified as follows:

(1) Explosions caused by the full stream of water striking settled dust in various parts of the buildings. The water forces the dust cloud on to the fire, causing the explosion.

(2) Explosions caused by the falling of the floors or the dropping of the bottom of storage bins, forcing the dust cloud on to the fire, resulting in an explosion.

(3) Explosions that have taken place when firemen attempted to remove the contents of bins or other enclosures in an effort to determine whether the original fire in the bin had been completely extinguished. The dust clouds thus produced readily ignite when they come in contact with flames.

(4) Explosions that have taken place as the result of the chemical reaction between water and the dust. When water (H_2O) is applied to hot aluminum powder, for example, a violent reaction takes place. The oxygen from the water unites with the aluminum, causing it to burn more rapidly, while the hydrogen, which is an explosive gas, is liberated. When the explosive hydrogen and air mixture comes in contact with the fire, explosions can readily follow.

Precautionary Measures Recommended

The following precautionary measures are recommended for the prevention of explosions of the various classes referred to:

(1) Plants in which combustible dusts are created during operating processes should be systematically inspected by firemen. This enables firemen to become thoroughly familiar with structural features of the building and the hazardous processes carried on in them, and gives them definite knowledge of the contents of the building and of any combustible products handled and manufactured. This knowledge is helpful in working out a plan of fire fighting which will more adequately protect the firemen.

(2) When wetting explosive dusts, a spray is preferable to the full pressure from the hose.

(3) Before undertaking to remove the contents of bins in which a fire has occurred and apparently is extinguished, it is advisable to flood the bin and thoroughly drench the material.

(4) When inflammable metallic dusts that liberate hydrogen by chemical reaction are encountered in fighting fires, water must be used with caution.

Dust Explosions and Fumigation Operations

A puzzling situation with reference to dust explosions in grain elevators, grain storage plants and other grain-handling and milling operations has been encountered recently. There seems to be a very definite feeling on the part of operators of grain-handling plants that a number of recent disastrous dust explosions may have been associated with residues of explosive gases remaining in the grain after fumigation operations.

This suspicion has arisen in connection with the use of fumigants consisting wholly or in part of inflammable chemicals. This problem may be stated as follows:

(1) What is the effect of adsorbed inflammable gases on the explosibility and ease of ignition of grain and other explosive dusts?

(2) Is there an explosion hazard due to the absorption or adsorption by grain of certain fumigants and the later release of an explosive constituent?

It has been suggested that a selective adsorption or absorption of the explosive constituent might take place when grain is fumigated with gases consisting in part of a recognized explosive gas, and in part of some inert gas used as a safe diluent of the explosive gas, the inert gas being displaced eventually by air. The possibility of adsorption of explosive gases by grain during fumigation operations and the later liberation of the gases during storage must be studied further.

(3) Is there an increase in the explosibility of grain dust and air mixtures due to the addition of small percentages of explosive gases?

In connection with the consideration of this part of the problem it is pointed out that tests by the U. S. Bureau of Mines indicate that, although Pennsylvania anthracite coal dust when mixed with air will not propagate flame, the addition of as low as two per cent of methane gas (CH_4) will produce an explosive mixture. This gas percentage is more than three per cent below the lower limit of explosibility of the methane gas.

Additional scientific knowledge on this problem will assist in the development of further measures for the safe application of fumigation methods in grain-handling plants.

Methods for Prevention and Control

(a) Explosion Venting Areas in Grain-Handling and Milling Plants

Dust explosions in grain-handling plants, particularly in grain elevators, have proved definitely the need for

Hazards of Firemen in Fighting Blaze After Severe Dust Explosion

adequate venting areas in the construction of these plants. In one recent case proper venting area to relieve the pressure from an explosion in the workhouse of the elevator would have prevented the complete destruction of the top of the house. In another recent case the workhouse was saved from destruction by an adequate glass-venting area.

The effectiveness of glass vents in this explosion confirmed the tests by the Chemical Engineering Division of the Bureau of Chemistry and Soils. These tests have shown conclusively that it is possible to vent grain dust explosions without structural damage. Our engineers recommend that for satisfactory venting of dust explosions in grain elevators not less than 1.25 square feet of venting area be provided for each 100 cubic feet of space (1 sq. ft. to 80 cu. ft.). The application of this principle should be embodied in all new construction of grain-handling plants.

(b) Removal of Foreign Material from Grain

The desirability of removing foreign material from grain upon receipt at the grain elevator or milling plant has been forcibly demonstrated by several recent explosions in grain elevators. The investigation of these explosions indicated that the dust clouds had been ignited by sparks from metal particles in the grain. It is a difficult problem to prevent foreign material from entering equipment in grain-handling operations. Screens of 1½ to 2-inch mesh, when placed in the gratings over receiving pits, have in many instances stopped large pieces of metal from entering pits with the grain, and the use of such screens should be given practical consideration. The practical value of magnetic separators in the grain-handling sections of the plant should be given further attention, and methods should be developed for the removal of any metal that may drop into the grain while it is being handled.

(c) Value of Closed Storage Bins

The value of closed bins and the undesirability of interconnections between storage bins are definitely indicated by the recent explosions in grain-handling plants. Open storage bins and bins with direct connections permit the rapid spread or propagation of flame over the tops of the bins and thereby extend the violence of the explosion. Preventing the spread of fire from one storage bin to another is of prime importance and should be given thorough consideration.

(d) Protection of Electrical Appliances and Equipment

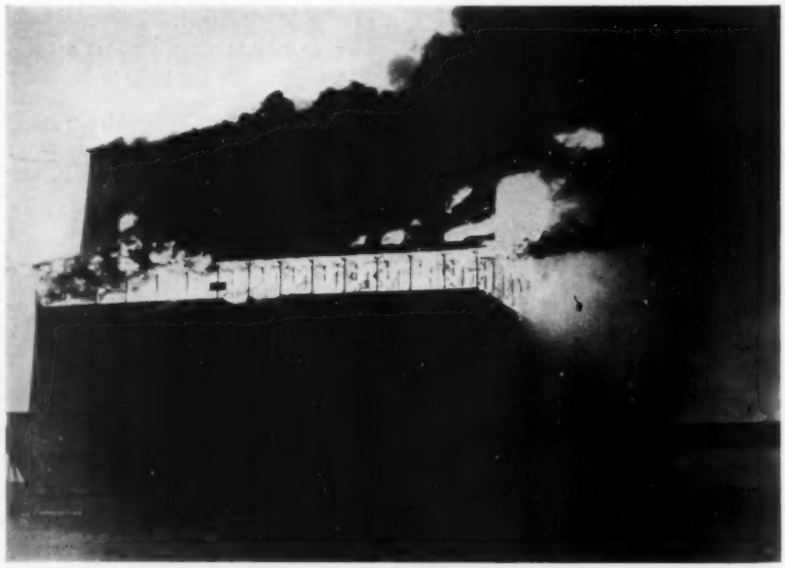
It has been amply demonstrated in the investigation of dust explosions that proper provision should be made for adequate protection of electrical appliances and equipment. Electric lamps should be protected with outer dust-proof globes and heavy wire guards to prevent breakage. Portable spotlights of suitable design and approved construction, to be directed into bins through manholes, should be used as temporary or occasional lights for bin examination instead of extension cords dropped into bins.

(e) Control of Static Electricity

Static electricity has appeared as one of the prominent causes of dust explosions, and considerable attention has been given to the development of control methods for this hazard. Provision should be made for the removal of static charges on all types of mechanical equipment handling combustible dusts or operating at points in the plant where these dusts are present.

(f) Inert Gas Protection in Grinding and Pulverizing Operations

The reduction of the oxygen con-



Destruction by Fire of a Large Terminal Grain Elevator, After a Dust Explosion, in Which Four Lives Were Lost

tent by the introduction of inert gas, such as carbon dioxide (CO_2) in grinding and pulverizing operations has proved effective in the control and prevention of dust explosions. When the oxygen content is reduced to approximately 12 per cent in grain-grinding operations, complete protection is afforded. The reduced oxygen content (as the result of the addition of inert gas) prevents the ignition of the dust cloud in the grinding machine, and also prevents the spread of fire through the conveying and elevating machinery.

(g) Dust Collection and Removal

Cleanliness and good housekeeping are matters of prime importance in dust explosion prevention and should be insisted upon to the highest degree. It is always impossible to handle or clean grain without making dust. This dust should be collected and removed without being permitted to accumulate in any section of the plant. A dust explosion cannot occur unless combustible dust is present.

Need for Further Technical Research

Research work on dust explosion and fire prevention is directly concerned with the development of methods and appliances for the protection of human life, property, and foodstuffs. Before further methods are developed for dust explosion prevention in industrial plant operation and also during fire-fighting operations, we must fully understand the conditions under which dust explosions can occur and the factors which contribute to the explosibility of these dusts.

It is necessary to conduct further tests to determine the best methods and equipment for venting explosions, and also the venting area necessary to relieve the explosion in its primary stage.

To prevent dust explosions it is of the utmost importance that every precaution be taken to eliminate all possible sources of ignition in grain-handling operations.

We must realize, however, that with the introduction of new methods and equipment some dust explosions are going to occur, possibly from new causes or from causes not previously determined. We should therefore continue our efforts by further research studies and by practical application of methods and devices for limiting or controlling these dust explosions.

(Excerpts from an address before the sessions on Fire Prevention in Industry of the National Safety Congress.)

CHIEF SULLIVAN GIVEN COMPLETE CHARGE OF UTICA IN EMERGENCY

Authority Supersedes That of Mayor and Police During Underground Gas Fires Which Endangered Business Section

By James F. Hamlin

AN outstanding demonstration of the authority that a Fire Chief can attain was shown at Utica, N. Y., a short time ago when Chief Joseph N. Sullivan for 48 hours superseded Mayor and police officials to completely dominate a gas leak situation that terrorized a city of 103,000 persons.

When a water main burst in the downtown section, followed suddenly by an outbreak of underground fire in the vicinity of the leak, and subsequent gas explosions, Chief Sullivan took command, not only of his fire fighters, but of utility workers and the citizenry as a whole as a precautionary measure against a threatening holocaust. Chief Sullivan took up his station in the stricken area, and remained at his post through a blizzard and zero weather until the danger had definitely passed.

Fire apparatus, with motors running and hose stretched, stood at corners of the downtown area, with full crews ready to go into action, while fire prevention inspectors made tours of buildings. Utility workers used gas detecting devices to guard against explosions and fires that were expected every minute.

Store and office workers ran in terror from the stricken area when manhole covers in a gigantic heave were lifted to high altitudes early in the emergency, injuring a policeman and fire lieutenant as they made preparations to take up their stations in guarding the danger zone.

Terror spread through the city as exaggerated stories circulated telling of the impending danger that at any moment would transform the city into a sea of flame. Telephone lines, even those leading to the Fire Department switchboard, went dead suddenly and for the moment the department was seemingly out of touch with its protectorate.

Chief Sullivan Takes Hold

Hurriedly consulted, Chief Sullivan, ordered that a system of telegraphic communication through the department's system be established, while telephone lines were being repaired. Most houses were accessible for telegraph alarms and special company calls signaled the need for single companies during the emergency. Telephones that were in service in the immediate vicinity of fire houses were used to complete the network of communication, where telegraph connection was cut off.

As the hours wore on and a 50-mile hour gale of below zero temperature hampered the work of repairing the gas leak, and made necessary prolonged patroling of the downtown area, fire companies took turns in standing guard. Officers alternated in directing activities.

From the early stages of the emergency, business was abandoned and for an area of more than ten city blocks, not a store or office was open, and heating equipments were cold and necessarily out of service.

(*Continued on page* 204)

The Chief Informs a Frantic Public of Existing Conditions

Chief Joseph N. Sullivan uses the facilities of the local broadcasting station to halt wild rumors of the fire. At the right is Dale Robertson, manager of the broadcasting station.

The Crime of Arson

Fourth Article of a Series Which Will Cover Outstanding Cases of Incendiarism and How They Were Handled

By GEORGE O. MANSFIELD
Chief of Fire Investigation, Massachusetts State Police

THE two elements necessary to support a charge of arson or other burning in court are, first, that the building was burned, and second, that it was burned by the wilful act of some person, and not as a result of natural or accidental causes. The first is readily proven, but, the second is not so easy.

As to the first element, prove this by the Fire Department officials or others having knowledge of the fire. There must be a burning, however slight. Mere scorching or blackening by smoke will not suffice. There must be a burning, at least, of the wood. Some part of the building must be burned, and it makes no difference whether it is inside or outside. Likewise, burning of furniture, household utensils or clothing within the building will not make out a case of burning of the building unless the fire set in such contents spreads to and burns a portion of the building.

It is always advisable to use Fire Department officials as witnesses. They should be especially capable and trained as to the technique of bringing out all the pertinent facts. Essential features which should be presented at this time should include the time of the alarm, identity of the building, with a complete description, its location and character of the surroundings. Photographs should be used, if possible. The ownership, occupancy and control of the building, as well as the extent and character of the burning, should likewise be presented. If the owner is a defendant, or not available to testify, prove ownership by legal records that can be summoned from the proper officials.

Having proved all the foregoing, evidence next should be presented in support of the second element, that is, that it was burned by the wilful act of some person and was not a result of natural or accidental causes. We need not be alarmed by the words "wilfully and maliciously burned," because any act done intentionally is a wilful act and the statute now makes the setting of a fire, even to your own building, a crime, since doing this act is illegal, it is a wilful doing, and the fact that it is a crime supplies the malice.

The presumption is, according to authorities, that when a building is burned it is the result of accident. Any circumstances tending to rebut the presumption that the burning was accidental is admissable. In many cases, of course, one may detect evidence of incendiarism, such as two or more separate fires in a building, fire traps, such as we described, in previous installments, and any of the various circumstances mentioned.

Things Made Easy for Spread of Fire

A wall was ripped out under the stairway so that fire would go up through the center of the building. Paper trailers were also placed on the stairway to make sure that the fire would travel upstairs.

Natural and Unnatural Causes

In the absence of positive evidence of incendiarism, an incendiary fire may be proved by the elimination of all natural or accidental causes from which the fire could be originated. Evidence that the circumstances were such as to exclude natural or accidental causes may be the absence of substances which might cause spontaneous ignition; the remoteness of the source of the fire from the heating or lighting apparatus; the fact that no stoves or fires for heating purposes had been recently kindled; or that smoking or careless use of matches had occurred; or that there was no defective electrical equipment found and that the electric wires were far removed from the point of origin.

In a building which has been partly destroyed by fire, the place of origin may often be determined by a view of the premises, and, it may be advisable, in some cases, to have the jury taken to the scene. Fire, as a rule, has a tendency to burn upward and spread, if there is anything combustible within reach. The upward progression is marked when the building is vented in any manner above the point of origin and occurs particularly when aided by elevator shaftways, air shafts and stairway

openings. The tendency of burning to rise rapidly and spread to either side is commonly referred to as "mushrooming." It will also burn downward through a partition and may be communicated to levels below the point of origin by the dropping of embers or other burning material. Such fires are commonly known as "drop" fires. Studding or other timbers which show the greatest amount of burning may indicate the point of origin. The growth and spread of a fire may be traced by the difference in the burning of either side of a partition, and, in the same manner, through floors. This sort of evidence should be presented many times to support the fact that they were separate fires. Having proved the fact of the burning and excluded the possibility of an accidental cause, the way will then be open for the introduction of direct or circumstantial evidence, that it was the act of the accused and that it was done with criminal intent.

Trapped by a Desire for Increased Valuation

After fire had been set in this house. the one insured realized that there was not enough furniture to cover the amount of insurance. He went to a second store and purchased additional furniture which was moved into the burnt occupancy. He had a difficult time explaining how the furniture set, which had been moved in, was not touched, while other things in the room were burned.

Motive of Fire

As previously stated, proof of motive is not legally necessary and need not be shown, but, in actual practice, it is very essential that a motive be developed. Before connecting the accused by direct or circumstantial evidence to the fire, it is best to show a motive, because the jury will seldom convict unless a motive is shown.

Many motives have been outlined in this series. The pyromaniac has a motive peculiar to his type, but the person with a motive to profit by insurance may be actuated by many reasons. In presenting evidence to support the claim that the fire was set to defraud an insurance company, it is competent first to prove that the building was insured. Produce the policies or copies thereof. (In Massachusetts the prosecutor serves notice on the defendant to produce the policies and if he does not, then copies are admissible.) The usual custom is to have the insurance agent testify with his original records. While it is not necessary to show over-insurance, it is better to do so, because it will then appear that the accused could profit to a greater extent. Over-insurance is usually proved by comparing the amount of the policies with the actual value of the property burned. Show the assessed value of the property, if a building, and have a real estate expert testify to the value of property in the particular neighborhood.

Firemaker Caught Because of Too Much Pig

Dried pig bladders were filled with paint remover and placed around the stove so that one would believe the fire was caused by the stove. The incendiarist expected the bladders to burn. When fire started, the oil burner tank exploded and part of the ceiling fell. The debris buried the bladders so that they were not consumed by fire. Firemen found nine bladders, which can be seen in the photograph, at the left of the stove.

Clues of Made Fires

Other important points will show recently placed new insurance; increased insurance; insurance policies about to expire; notice of cancellation having been given, or the demand for payment of premiums overdue; statements of the accused that he hoped the place would burn down;

Another Case of Criminal Ingenuity

This home-made fuse consisted of twisted store string and matches. The string was twisted so that the fire would be slow burning and would allow the firemaker to get away before matches would ignite.

poor business; notes due; mortgage interest unpaid; taxes overdue; rent due; mortgage foreclosure impending; attachments; assignments; debts due (unpaid bills and demands for payment found during the fire should be produced at this point); overstock; letters refusing the fulfillment of orders because of the persons' or firms' indebtedness; employees' wages unpaid; seasonable business at an end with seasonable goods still unsold; failure to receive expected orders; cancellation of orders; desire to leave locality; customers not making payments; goods moved out before fire, and many other circumstances that would support an insurance motive.

Having shown a motive and eliminating accidental causes, the closing evidence should be presented by the strongest witnesses on the question of incendiarism. Always retain the best witness to terminate your case by putting in the fact that trailers, separate fire, inflammable fluids and similar circumstances were found.

Every case is different and the evidence will be peculiar to each case.

FLAMEPROOFING TREATMENT FOR WOOD DEMONSTRATES VALUE IN SEVERE TESTS

Underwriters' Laboratories Conduct Tests on Various Types of Woods With and Without Treatment—Results Satisfactory

FIREPROOFED lumber, a dream for centuries, apparently is at last a reality.

This recent contribution of science which practically robs wood of its ability to burn and renders it instead an obstacle in the path of fire, is made known after a comprehensive examination just completed by the Underwriters' Laboratories.

"Practically noncombustible and nonflammable" is the evaluation of the effectiveness of the fireproofed wood tested. Walls or floors of this material, tests show, will act as fire-stops and prevent the passage of fire through them, thus confining the conflagration to its point of origin and preventing its spread. It is further stated in the report approving this material that its fire-resisting properties will last throughout its useful life. These and the other conclusions drawn are the results of a great variety and number of tests.

The material investigated and approved is fireproofed lumber of red oak and maple for flooring and interior trim. The successful fireproofing of this lumber is effected by a method not unlike that used in the treatment of telegraph poles, railroad ties, fence posts, etc., with creosote for protection against decay, except that incombustible salts are used in the case of the fireproofed lumber. The technique of the process is exacting, as its success depends largely upon getting just the correct amount of salts into the wood as a greater or lesser amount fails to give the desired results.

In the tests conducted at Underwriters' Laboratories actual fire conditions were created. Whole floors of the fireproofed lumber, and others of untreated lumber, were subjected to intense heat in gas-fired furnaces especially designed for such work. Through windows the behavior under fire of the fireproofed and the untreated floors was observed and compared by one group of engineers, while a hundred feet away other engineers recorded the temperatures of the floors by means of meters connected with thermocouples.

The fireproofed floors came from the furnace at the completion of the tests blackened and charred on the exposed surface but intact and otherwise sound, having successfully stood as a barrier against the fire and prevented its passage. The untreated floors did not fare so well. They ignited and, on completion of the tests, were burning on both the exposed and unexposed surfaces, the fire having eaten through them.

Tests Show Merit of Treatment

Fire spread tests in a horizontal furnace, where the flames were played on one end of the flooring, were also conducted. Chemical and calorimetric tests were performed on numerous samples conditioned in various ways. Test floors were repeatedly washed to determine the lasting quality of the fireproofing. For thirty days an automatic machine scrubbed them with cleaning compound, flushed with clear water and dried the surface every thirty minutes and then repeated the operations. All of these tests, as well as the Dunlap fire tube, timber and crib tests conducted on a great number of samples, showed the merits of the fireproofed lumber.

Ex-Chief M. J. Callahan Dead

Michael J. Callahan, the ninth Chief in the history of the Detroit Fire Department, died on February 8, after members of the city's Rescue Squad had worked for five days to save him following an attack of pneumonia, which set in after a stroke. He was seventy-one years old.

He had succeeded Chief De May when the latter retired in 1932.

Chief Callahan joined the department on June 6, 1887. He was promoted to Lieutenant on March 5, 1895; appointed Captain on June 16, 1905; advanced to Battalion Chief on July 1, 1917; served successively as Chief of the Ninth, Eighth, Second and First Battalions; on July 1, 1924, he was assigned to the Assistant Chief's office; promoted to Second Assistant Chief on August 1, 1925; First Assistant Chief on March 1, 1927, and head of the department on March 1, 1932. He retired on September 26, 1932.

When he retired, the Common Council presented him with an engrossed copy of a testimonial resolution which was presented before a large audience. The testimonial was from the people of Detroit.

Ex-Chief M. J. Callahan

The late Chief is survived by his widow, a daughter, and two grandchildren.

Gases, Chemicals and Hazardous Materials

Part IX

In this ninth installment is continued the discussion of chemicals and hazardous materials more commonly encountered in fire-fighting. Methods of shipping and handling and their action under exposure to fire are given for most of the materials.

Red Phosphorus: This material is a reddish-brown powder insoluble in water. It is not poisonous. It does not take fire at ordinary temperature, as does yellow phosphorus, but when heated in air to about 464° F. it will burn.

Its chief use is in connection with the manufacture of double tip and safety matches. For the latter, red phosphorus together with an oxidizing agent, such as chlorate of potash, and some gritty material, is mixed with glue and placed on the side of the match box. The head of the match is provided with an easily combustible substance such as antimony sulphide and also an oxidizing agent. The friction of the match head on the box surface produces the heat required for the ignition of the material.

Red phosphorus powder may contain some of the dangerous yellow phosphorus from which it is made, unless the manufacturing process has been carefully carried out. When pure, it presents no important hazard. The fumes it gives off in fires are poisonous, however, and in storage it should be isolated from other chemicals, and safeguarded against mechanical injury of containers.

Yellow Phosphorus: This material is a yellow, semi-transparent, waxlike solid, insoluble in water, soluble in carbon disulphide, and slightly soluble in alcohol and ether. It ignites spontaneously in air, burning slowly at 60° F. and brightly at 140° F., forming dense clouds of white smoke consisting of phosphoric anhydride. It is very poisonous.

Combined with sulphur to form phosphorus-sesquisulphide, it is used with other materials for tipping matches. It is used in rat poison, also in making phosphor-bronze, and in other minor ways. The use of phosphorus for match making is largely prohibited on account of its poisonous effects.

In view of its prompt ignition on exposure to air the material is dangerous. It must be handled under water. It is sold usually in soldered tin cans, water filled. The tin cans often rust through, allowing the water to escape, ignition ensuing.

Fires caused by phosphorus may break out repeatedly after quenched, unless great care is taken to remove all the material.

As noted before, it is poisonous, and constitutes a very severe life hazard under fire conditions.

In storage it should be isolated from other chemicals, and safeguarded against mechanical injury of containers.

Picric Acid: It is usually found in the form of pale yellow crystals. Its ignition point is about 572° F. It is poisonous, and highly explosive, but not sensitive in this respect when pure, cold and containing 10 per cent or more water.

It is used extensively for bursting charge in projectiles, and less so in the composition of propellant charges in shells. It is also used for medicinal purposes, in dye making and in dyeing. It is commonly packed in paper lined wooden barrels, and ordinarily contains 10 per cent or more of moisture. For druggists' use, it is packed in small glass bottles.

Hazard of manufacture is severe, as for all trinitrating operations. It may be detonated either wet or dry by powerful detonators. Surrounding fire may cause explosion, especially if large quantities are involved. Great care should be taken to keep the material clear of lead, iron, or other metals and their oxides and lime. As ordinarily stored with 20 per cent moisture, it is not readily ignited.

It is flammable and is an oxidizing material.

Insofar as life hazard is concerned, it is severe, both due to its oxidizing nature, and its high explosive characteristics.

In storage, it should be kept under water, or kept away from other materials, including metals, with which it forms sensitive and explosive picrates.

Potassium: This is a soft, wax-like silvery metal, which rapidly decomposes with water, on which it floats. It is inflammable and may explode spontaneously on contact with water. It is kept under oil or paraffin in glass bottles, tin cans and iron drums.

It is used in chemical laboratories for experimental work.

It is dangerous under fire conditions, due to its inflammability and explosibility. In storage it should be isolated from other materials, and kept in a dry place away from water or moisture. Containers should be safeguarded against mechanical injury.

Potassium Bichromate: A bright yellowish-red transparent, crystalline substance, which is poisonous if taken internally. It is soluble in water. It melts at about 750° F. and decomposes, releasing oxygen, and is therefore troublesome when encountered at fires. It is shipped in wooden barrels and in glass bottles.

It may be found around establishments engaged in chrome tannage, pigment for printers' trade, fireworks, bleaching, photography and medicine. Its fire hazard is due to the fact that it readily imparts oxygen and is therefore a supporter of combustion.

In storage it should be isolated from combustible materials and acids.

(To be continued)

A Gasoline Tank Ignited by Lightning

This tank of gasoline distillate was struck during a heavy electric storm and the resulting blaze caused damage amounting to over a million dollars and caused the death of fifteen persons. The illustration shows an attempt to save the body of one of those killed. So hot was the fire that a near approach to the burning tank was impossible and poles and grappling hooks were resorted to to recover the corpses.

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Retaining Wall: One constructed to support a body of earth or to resist lateral thrust.

Height of a Building: The vertical distances from the curb level to the top of the highest point of the roof beams in the case of flat roofs, or to the average height of the gable in the case of roofs having a pitch of more than 20 degrees with a horizontal plane.

Fire Shutter (approved): A shutter which will successfully resist a fire for one hour in accordance with underwriters' test specifications.

Pent House: A structure erected on the roof of a building for the purpose of enclosing stairways to the roof, elevator machinery, water tanks, ventilating apparatus, exhaust chambers or other building equipment or machinery and for janitor's quarters.

Questions

(To be answered in next issue)

1. What would be your procedure if in charge of a chemical company at a large fire where sparks or embers are flying? State in detail.
2. (a) What harm may be done to the contents of a store by the improper use of water in extinguishing a fire? Give example.
   (b) In what way may such damage be kept at a minimum?
   (c) What should be done to the contents of the store after a fire has been extinguished?
3. (a) What is meant by "ventilating" a burning building?
   (b) Describe what takes place when a burning building is ventilated.
   (c) When is it unnecessary to ventilate a burning building?

False and True Questions

(Is each statement false or true? Answers in next issue)

4. T F—The discharge efficiency of fire nozzles may be as high as 95 per cent.
5. T F—The following materials, when ground to a very fine powder and suspended in the air, are explosive: aluminum, copper and zinc.
6. T F—There is danger of fire from the slaking of lime in an open space.
7. T F—There is no danger of fire from the slaking of lime in a confined space.
8. T F—Soda and acid extinguishers of the loose stopple type are satisfactory for use on motor fire trucks.
9. T F—It is sometimes possible to extinguish a gas well fire with water streams.
10. T F—A soda and acid extinguisher may be either tin lined or lead lined.
11. T F—Paint is a better coating for a ladder than varnish.
12. T F—The bottom and top sides of a trussed ladder are the same.
13. T F—There are two or more impellers in a multi-stage centrifugal pump.
14. T F—The friction loss in a line of hose increases as the flow becomes greater.
15. T F—When a broken stream being thrown on an intense fire seems to be consumed, the water is actually vaporized.
16. T F—The two most objectionable features in fighting a fire on the lee side are heat and smoke.
17. T F—The force of a stream striking the broad side of a steel beam will cause the beam to bend away from the stream to a noticeable extent.
18. T F—A highly heated steel beam struck by a fire stream on the broad side of the beam may bend away from the stream due to contraction of the surface struck by water.

Completion Statements

19. A device on a motor pumping engine which prevents damage when a nozzle on a line of hose, being fed by the pumper, is suddenly closed is called a.....
20. When there is but one man on an open pipe or nozzle, and the pressure is more than he can handle and no assistance can be secured, he can protect himself by.....
21. Where it is necessary to drive in a large swinging door at a fire and a battering ram is not available, a ..... may be used for this purpose.

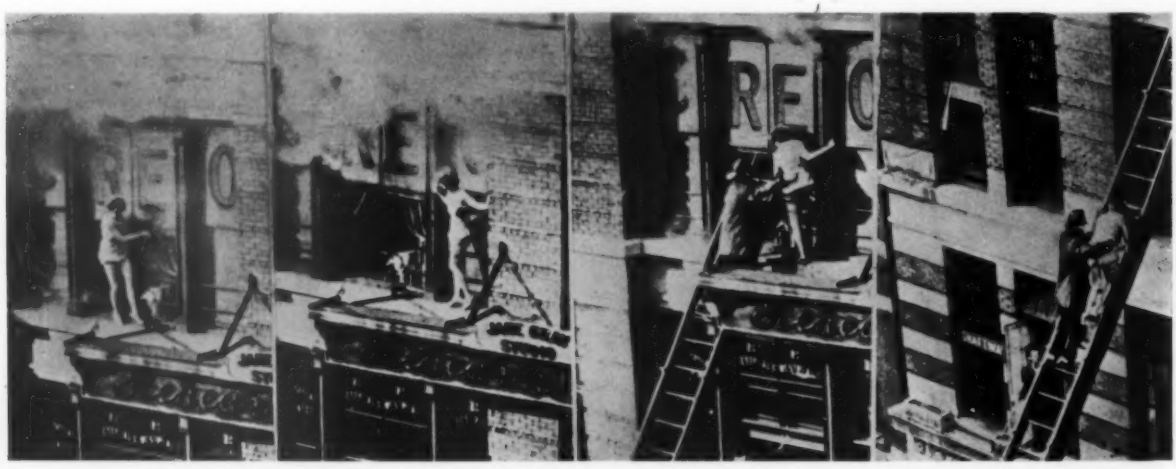
Answers to Questions in Previous Issue

1. (A) When engine fails to start the trouble may be due to any of the following: ignition switch not turned on; no gas in tank, or the line stopped up. This latter may be due to dirt in the bottom of the gas tank, in line itself, around carburetor float valve, or water in the gas which has frozen.

Mixture too thin. To check up on this pull up choke lever, prime motor.

Carbureter and cylinders flooded with gasoline from too rich a mixture. To check up on this, open pet cocks, close throttle and choke, and turn motor over by hand until all cylinders are cleared.

Lack of or poor ignition. This may be due to battery exhausted, defective or improperly adjusted spark plugs, mag-



©New York Evening Journal

New York City's Theatrical Section Witnesses an Unrehearsed Fire Department Rescue

Here are four stages in the rescue of a theatre cashier who had an ambition to become a stage dancer. Fire broke out in the dancing school on 48th Street. She was trapped by the smoke and was unable to reach the stair way. She managed to crawl out on the ledge and screamed for help. A ladder was placed against the ledge and the dancing student went through a routine that was not included in the curriculum.

neto dirty or wet, defective wiring or not firmly attached.

Poor compression: air leak in intake manifold; intake valve stuck or not properly adjusted; incorrect timing of valves and ignition.

As to determining the causes for these motor troubles, inspection or test will usually locate the trouble. After some of the before listed causes, suggestions are made on how to remedy the trouble. If in any case the motor starts up after the particular remedy is applied, it is evident that the cause of the trouble has been located. Poor compression can usually be detected by turning the motor over by hand, with the ignition turned off. Air leak in intake manifold can usually be detected by close inspection. Valve troubles are best located by careful inspection and checking up.

(B) Where the motor starts, but fires only a few times, the cause may be any of the following: clogging of fuel line; poor spark or at the wrong time; lack of compression.

If the fuel line is causing the trouble it can readily be detected by failure to deliver sufficient gasoline to the carburetor, or the vacuum tank, where such is employed. Weak spark is located by grounding plug with screw driver or by removing lead from each spark plug in turn and turning the motor over while lead is placed near engine or any other part of the machine which closes electric circuit of the ignition system. Weak spark shows itself. A careful check-up of timing will indicate whether or not the spark takes place at wrong time.

Lack of compression is found as described in previous answer.

(C) If the motor knocks, the motor speed may be too slow for the pull. It may be due to motor overheating. Carbon causing pre-ignition also produces motor knock. Loose bearings as well as too great valve clearance produce knock, or tapping. If too low a motor speed is causing the knocking it can be detected by shifting into a lower gear. Presence of excess carbon in the cylinders can be determined by inspection. Loose bearings as well as improper valve clearance must be determined by careful inspection also.

2. Carelessness in connection with smoking, placing hot ashes in combustible receptacles, neglecting chimneys, and careless burning of rubbish.

3. Immediately transmit a call for additional apparatus as required. Let apparatus make no unnecessary noise. Notify principal of school to have school dismissed at once. If police are not already at hand, assign a man to communicate with the Police Department for men to form fire lines, should such be necessary.

In having the school dismissed, have the students directed out of the exit farthest from the fire, if such procedure will not cause confusion or panic. Should customary fire drills require students to leave by way of a certain exit, then such will have to be followed in this case, but the students should be directed away from the scene of the fire, after leaving the building, by school employees. If smoke has gotten into the building, there is apt to be considerable uneasiness on the part of the pupils and in such cases firemen should be assigned to the various exits employed to prevent panic.

4. First determine where ceiling must be opened. Move aside any valuable articles which might be damaged by falling plaster; use either 6 ft. hook or plaster hook. Plaster is usually attached to wooden laths which in turn are secured to floor beams above by small lathing nails. It is an easy matter to rip down plaster, for the nails do not offer much resistance. Pull plaster down along the line of the beam. In other words, if there is indication of fire at one point, this fire will spread horizontally between floor beams. Opening up at one point between such beams may not provide sufficient assurance that the fire hasn't spread to either side. Plaster should therefore be pulled down along a strip between the beams as far as necessary.

On the other hand, if there is no distinct evidence of fire at any particular point of the ceiling, and if it is necessary to make sure that fire is not burning anywhere above the ceiling, then the strip should be ripped across beams from one side of the room to the other. Such an opening will make possible inspection of spaces between all beams.

5. The chief hazard in connection with a fire in motion picture projection booth in small moving picture theatre is the possibility of panic. Such theatres usually have comparatively poor exit facilities.

6. True; 7. True; 8. True; 9. False; 10. False; 11. True; 12. False; 13. False; 14. False; 15. True; 16. False; 17. False; 18. False; 19. True; 20. True; 21. True.

22. . . . Baker . . . Hart.

23. . . . wired glass . . . metal shutters.

24. . . . fire "mushrooming" and thus extending.

25. . . . possibility of dust explosion.

26. . . . presence of frame partitions.

Questions with Answers

Question: In a building where the fumes of ammonia, acids, chemicals, or other similar liquids, are escaping, what are the dangers and what are the precautions necessary when fighting fires in such places?

Answer: The dangers are two in number: the hazard to lives of men operating around such establishments, and the danger of explosion of inflammable vapors. Precautions necessary are as follows: Thorough ventilation; protection of men by self-contained breathing apparatus or suitable gas masks where such men must enter the building. Use of liberal quantities of water where ammonia tanks, ammonia piping, or ammonia apparatus is present; also use of liberal quantities of water where certain acids are involved. Some chemicals require large quantities of water in handling them at fires while others cause additional trouble when water strikes them. The nature of the chemicals should, if possible, be determined and they should be handled accordingly. In the event that acids or chemicals are involved which throw off poisonous gases, men must be kept out of the path of such gases, if the gases are advancing in quantity. This particularly applies to nitric acid fumes, chlorine gas, cyanide of potassium, etc. Additional precautions must be observed by warning people in buildings in the line of travel of dangerous gases so that these people may move to a point of safety. This latter precaution, however, applies especially to fires involving large quantities of these poisonous chemicals.

(To be continued)

Retired Supt. Byington Dies

Eugene M. Byington, retired Superintendent of the Repair Shops and high pressure service of the Boston Fire Department, died on February 1 at the age of 87 years.

He was born in Ashburnham, Mass., and served as a call fireman in Boston during the Great Fire of November 9, 1872. He was appointed a permanent fireman the following year and assigned to Engine Company No. 23. In 1874 he was made an engineer and in 1895 was appointed Second Assistant Superintendent of the Repair Shops. In 1906 he was appointed Supervisor of Engines and in 1909 was promoted to Superintendent of Repairs, ranking as a District Chief.

The Late E. M. Byington

He was a patient in the Scobey Hospital when fire broke out there in 1925 and aided in rescue work. Byington was retired soon afterwards on pension. In 1928 he married Bertha Randall, of Dorchester.

J. P. Maloney, Boston, Dead

James P. Maloney, for many years Chief Clerk of the Boston, Mass., Fire Department, and recently appointed Executive Secretary, died at his home, 38 Monument Avenue, Charlestown, on April 20. He was appointed to the department on February 21, 1895; promoted to Assistant Chief Clerk in 1920; to Chief Clerk in 1923, and to Executive Secretary on February 4, 1936.

Under his supervision a remarkably efficient and convenient card index and record system was installed at Boston Fire Headquarters which was described and illustrated in a special article in FIRE AND WATER ENGINEERING, April 23, 1924.

In his younger days he was noted as an amateur baseball player and was manager of the Boston Fire Department Baseball Team for several years.

There was a detail of 30 firemen as funeral escort and a solemn high mass of requiem was held in St. Mary's Church on Warren Street, Charlestown, on April 22. The edifice was filled with the many friends of Mr. Maloney, who was one of the most popular officials attached to the headquarters staff.

HARRY BELKNAP.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE FIGHTING OPERATIONS DURING THE RECENT FLOOD

WITHOUT the usual means of fire alarm notification, deprived of the customary movement of fire apparatus, unable to use heavy fire-fighting equipment, and hampered at every turn by unusual conditions brought on by rising flood waters, Fire Departments in the affected areas marshalled all their forces and continued to give continuous service to the stricken communities.

They were faced by the constant fear of how they would fight a major fire under the abnormal conditions, if a catastrophe occurred. The fact that fire losses were surprisingly low is proof that Chiefs and department officials organized in a most efficient manner to meet the unusual conditions.

Besides placing men at strategic points as a means of fighting incipient fires and relaying fire alarms, men were dispatched to help marooned families reach points of safety. Personal belongings were moved, and even cattle were guided out of the flooded districts.

Pumpers were used to help the Water Department maintain water service; floodlights were operated to reduce the hazards caused by high tension lines and darkened streets. Flooded basements were drained, and sand bag dikes erected. In short the men did everything possible to prevent needless damage and to alleviate the suffering caused those who were deprived of their homes.

No brighter record is needed for the fire service than that established during the recent floods.

The problem in full that is discussed in this issue appears in the box on this page. Due to the large number of Chiefs who contributed to this Round Table, and the limitations of space, it will be necessary to conclude it in the next issue. Should you care to add your experiences, write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Discussion of the Question

E. W. Gieselman, Chief, Syracuse, N. Y.: While the Syracuse Bureau of Fire was hampered, more or less, by the recent floods within the city limits, its activities were increased rather than curtailed during the period that the waters of Onondaga Creek, Bear Trap Creek, and Onondaga Lake were at flood stage.

As an emergency measure, three rowboats had been placed at the quarters of Engine Company No. 18, and Hook and Ladder Company No. 9, in East Seneca Turnpike, which is the very center of the Onondaga Valley section of this city.

When the waters of Onondaga Creek began to rise and overflow the banks in Nedrow, to the immediate south of the city, and in the city proper, emergency crews were organized among the men of the two Fire Companies to man the rowboats and work in the flooded district.

Working in relays, members of the two shifts of these two companies, with the assistance of men detailed from neighboring companies, aided in the rescue of many marooned families in the flooded sector.

These men carried on so successfully that the flood in the Onondaga Valley section passed without a single fatality or serious casualty.

In addition to the rescue work, the crews working with the boats, together with other firemen stationed at strategic points, maintained a night and day vigil over occupants of houses in the flood zone who refused to vacate their homes despite the high water.

The rowboat forces, all through the flood, in addition to watching over the tenanted and vacated buildings, transported milk, groceries, provisions and fuel to families and persons who persisted in remaining in their homes in the flooded area.

They also assisted the American Red Cross in transportation of oil heaters and ranges to householders in the stricken territory when furnaces, boilers and other heating plants were put out of commission by flood waters.

Firemen also cooperated with the Red Cross in the matter of getting provisions and supplies, clothing and bedding, to relieve suffering and hardships among the victims of the flood.

While patrolling the district in a rowboat, a fireman, who had previously escaped death by drowning in going to the rescue of a family in the flooded district, heard cries for help from members of a family who persisted in remaining in their home, which was surrounded by swirling flood waters.

Hurrying to the house, the fireman found the kitchen in flames as a result of upsetting a pan of hot grease on the kitchen range.

Making the boat fast to a porch post, the fireman entered the building and extinguished the fire before serious damage had been done.

During the period that the flood was at its peak in the southern section of the city, we found it advisable to move the apparatus of Engine Company No. 18, and Hook and Ladder Company No. 9, from the regular quarters to a higher point in a nearby street.

This proved to be a very wise move, as the quarters of the two companies were surrounded by water when the flood was at its peak. We found it necessary to keep the apparatus in a street nearby for a period of forty-eight hours.

As the water receded, the department assisted other agencies in pumping or siphoning water from the cellars of buildings and business establishments in particular.

For a period of a week or more, the waters of Bear Trap Creek and the lake completely submerged sections of two main arteries to Liverpool, Phoenix, Fulton and Oswego, necessitating a detour and a rearrangement of our running card, so that about 9.5 miles were added in responding to an alarm of fire from an industrial district near the northwest limits of the municipality.

As a precautionary measure while the water was at flood stage, we de-

HERE IS THE PROBLEM

Were fire-fighting operations curtailed during the recent floods in your city?

If so, to what extent?

What work did your department perform outside of fire-fighting operations?

Were any apparatus, such as department floodlights, etc., used in rescue operations?

What changes, or additional equipment, would you recommend to meet a recurrence of such an emergency?

tailed firemen to the Will & Baumer Candle Company plant, the largest industry in the area, where they maintained a day and night watch during the flood.

C. J. Henry, Chief, Lexington, Ky.: Water flooded the streets from depths of a few inches to ten and twelve feet. Had fire started in the heavily flooded districts during the time of the high water, it would have been impossible to combat the flames.

Apparatus was used in the business district to pump out cellars and basements, thereby taking this apparatus from active fire duty, or at least causing this apparatus considerable delay in responding to alarms. Some of the cars in the department are equipped with radios and through this system the department was able to stay in communication with fire alarm headquarters and in some instances, the apparatus was dispatched to fires through means of the radios in the official cars.

We did a considerable amount of rescue work and also pumped water from basements and cellars. Our flood lights were used at the hospitals during the time the lights were cut off.

Adequate sewers are being installed in the city and as soon as they are completed it will eliminate the future danger of floods in this city. After pumping water from basements and other places where the water was muddy and gritty, we had to overhaul every piston pump in the department. To save this expense, each department should be equipped with a centrifugal or rotary pump to be mounted for easy transportation. It will save the fire equipment and will more than pay for the expense of the pumping unit. It allows each piece of fire apparatus to remain on duty at a time when "anything" is to be expected to happen.

As soon as the city sewers are completed, this department will not pump out any more basements, except where the water in the basement was caused by a defect or accident traceable to the city's responsibility.

E. H. Wheeler, Chief, Franklin, N. H.: Our fire-fighting operations were not curtailed to any great extent during the flood here, although some of our streets were under water from six to twelve feet deep and there were six feet of water in the basement of our Central Station. We had two boats ready for emergency, with pump cans, extinguishers, axes and pails to respond to places where motor apparatus could not go.

Our fire alarm system was put out of commission for forty-eight hours due to high water. I had this fact broadcasted over the radio, asking the citizens to use the telephone in case of fire, as this means of communication was not affected in any way.

Members of the department rendered valuable assistance in sandbagging, patrol duty, and assisting families in moving from the flooded area. We used one of our pumpers to pump water into the city mains for 59 hours, as one of the city pumps was unable to operate, due to high water over the draft tube of the water wheel.

The Rescue Squad used boats to assist people marooned in their dwellings and places of business. They also assisted in moving valuable stock from some of the manufacturing plants. Our floodlight was used to aid the Public Service crew to place additional guy wires on some of the poles carrying high voltage wires.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Due to the large number of Chiefs who contributed their experiences in operating the Fire Department during periods of flood or high waters, it has been necessary to conclude the discussion on this subject in the next issue.

John F. Moroney, Chief, Meriden, Conn.: We were not in danger at any time during the flooded conditions in Hartford, which is eighteen miles from here, and Middletown which is nine miles away.

Our emergency truck from the Headquarters Station made several trips to Hartford and Middletown with food and clothing, collected by our local post of the American Legion, for the flood sufferers.

A siphon which was purchased recently was loaned to the Hartford Fire Department for use in pumping out flooded cellars, thereby saving the apparatus from damaging its pumpers.

Richard L. Smith, Chief, Pittsburgh, Pa.: Three major fires occurred here during the recent flood, in addition to many small fires primarily caused by conditions brought about by the flood, such as ruptured gas pipes and gasoline tank connections, grounded electric connections, transformers, etc. Any one of the three major fires, had they gotten away from the department, might have caused a far greater loss of life and property than did the flood itself, and that caused about $150,000,000 damage.

When water reached beyond the flood stage (25 feet) I sent out an order to the men for continuous duty (24 hours), and made arrangements for their meals in the nearest restaurants. We were in a position to render aid of all kinds other than specific fire fighting. The department helped in rescuing people from flooded homes, office buildings and plants of all kinds; shut off gas and electric current in buildings and homes; helped feed and clothe the needy, assisted the Red Cross and other organizations in every way possible; organized a patrol of motorcycle firemen to patrol districts where fire alarm boxes were out of service, and squads for emergency use after our water supply failed. We had extra supply wagons for chemicals, etc.

Incidentally, thirteen of our fire company quarters were affected by the flood and suffered considerable damage; our department storeroom was wrecked with all its contents and supplies; and the city warehouse on the South Side with all its supplies was completely destroyed in one of the major fires. In moving most of the companies to other company quarters and in keeping both platoons working, it seemed like war times. The quarters looked like barracks for soldiers, which indeed our men were —peace time soldiers—as they have so often been termed.

In numerous instances department ladders, lights, ropes, masks, and other equipment were called into service.

The department is prepared for ordinary flood conditions (around a 25-foot stage), which have occurred annually and has a Flood Menace Commission, of which I am a member, and consisting of different city department and Bureau heads, public service corporations officials, Weather Bureau officials, river officials, etc. None expected, nor could have been prepared, for what happened—a 46-foot stage which inundated most of the "Golden Triangle" of business district in addition to acres of other properties throughout the city. While our responsibilities were great enough during the flood of high water it really became intensified after the waters receded. Engineers who have had flood experience stated that the work done here in Pittsburgh was one of the finest and quickest pieces of protection and rehabilitation ever put over in America.

About the only changes or additional equipment other than that at present available to meet a recurrence of such an emergency, would be a very close coordination between the city agencies and others heretofore noted, noting facilities for radio communication should telephone service fail, arrangement for sufficient number of powerful motorboats rather than skiffs or canoes, which were capsized or wrecked in many instances, and last, logs and lumber for the quick building of rafts.

Samuel H. Jeffries, Chief, Wilkinsburg, Pa.: The borough of Wilkinsburg, while free from flood waters, was without electric service for four days and nights. We have one hospital and three homes situated here as follows: United Presbyterian for Aged Women, with 54 inmates; Presbyterian Home for Aged Women, with 67 inmates, and the Aged Couples Home, with 72 inmates. Two firemen were on duty at the hospital from 6 p.m. to 8 a.m., and one fireman at each of the homes mentioned from 6 p.m. to 8 a.m. during the period of March 18 to the afternoon of the 22nd.

The department pumper was used to keep the Penn Avenue Hill standpipe filled to its capacity of 125,000 gallons as the water company, which uses an electric pump, was likewise without electric power.

The borough population is 30,000, with about 7,000 homes. All used candles for light during the emergency, and not one fire occurred during the four days of suspended electric service.

Frank Cantara, Acting Chief, Biddeford, Maine: Fire-fighting conditions were not curtailed during our recent flood.

The flooded area was in the lower end of the city and as no fires occurred in this section, we had no difficulty.

Work performed by the Fire De-

partment during the flood was as follows: Taking and moving people and home furnishings, pumping out the power and light stations, so that we would not be deprived of electric light and power, and pumping out wells so that citizens were able to have drinking water.

The department floodlights were in constant use, due to electric service being shut off in the flood area, as it was feared some people might be electrocuted. A siphon was used to pump out cellars.

The only additional equipment the department would need to meet a recurrence of similar conditions would be additional floodlights. The lights available were needed in many locations.

Ambrose Saricks, Chief, Wilkes-Barre, Pa.: To a certain extent our fire-fighting operations were curtailed during the recent flood. In the lower section of the city the water reached its greatest heights and spread over the large areas, forcing us to use boats to get to the fires.

Firemen rescued people who were marooned in their homes and brought fuel and food to those who were not able to be moved.

As far as Fire Departments are concerned, I would say that changes in operation should not be made. Cities located along river fronts which are subjected to floods, should make some provisions for boats, pumps, etc., that could be placed in service for rescue and fire duty.

W. H. Joynes, Chief, Richmond, Va.: Fire-fighting operations were not curtailed during the flood period, as there were no fires during that period in the flooded area. If there had been, we would have been handicapped in reaching many buildings in the flood district.

We worked three engines on account of a leak in the dam. Also we used our lighting equipment, so the men could see to work. Lighting equipment was also used at gravel pit where gravel was dug to use in the flooded area.

There is no additional equipment that I could recommend, although we ruined about six hundred feet of hose in cleaning up the mud and debris after the flood.

J. Guy Rusmiselle, Chief, Waynesboro, Va.: During the recent flood, some of my men were on duty all night rescuing people from their homes. It so happened we did not have a fire call. The river flows through the center of our town, so several pumpers were kept on either side as it was impossible to pass over the bridge.

Floodlights were put into service, ropes and even a tractor was used in pulling cars out of high water, and a canoe was used by department men in bringing several families out of their homes. I was in water almost to my neck in order to get to the home of the Chief of Police.

I believe every fire company should have a rescue squad of trained men with all necessary equipment for such emergencies. A fire school has been conducted each winter for the past three years and our men are trained for just this sort of thing which is bound to happen.

New Foam Nozzle Demonstrated

On May 6, in the presence of some 500 guests, the Pyrene Manufacturing Company of Newark, N. J., demonstrated various types of fire extinguishers including carbon tetrachloride, carbon dioxide, soda and acid, and foam.

Of outstanding interest was the first public showing of the "Phomaire" play pipe.

This play pipe, a device weighing between 10 and 15 pounds, generates foam when supplied by water under around 75 pounds pressure and fed a foam producing solution (saponin). The nozzle is simple in design, consisting of the main play pipe through which water passes and a tapped connection through which the foam producing agents is drawn into the nozzle by suction created therein. A constricted waterway within the nozzle produces an injector effect, drawing up the foam making solution.

Where the water enters the nozzle, a screen is provided to catch any particles of dirt which might reach the nozzle from the source of supply. After the water passes through the screen, it is forced through a ring orifice, in the center of which is a small circular orifice through which the foam agent is passed.

The foam producing agent is carried in a canister, or tank, on the back of the nozzleman. It is opened on the top and fitted with a hopper to facilitate pouring the material into the canister. When it is desired to secure a foam stream, the end of the suction pick-up is inserted in the can. The water flowing through the nozzle plus the foam producing agent produces the foam. Should the work of the foam be accomplished and it is desired to use a plain water stream, all that it is necessary to do is to remove pick-up pipe, or hose, from the solution canister, thus stopping the inflow of the solution. Plain water then comes from the nozzle.

The canister holds two gallons of extract, which is sufficient to give from 600 to 750 gallons of foam.

In the demonstration, the foam from the "Phomaire" pipe quickly extinguished a gasoline and oil fire in a tank of about 100 square feet surface. The foam produced appeared a little more slimy than that discharged by regulation foam apparatus (i.e. foam generated with foam powder) and the bubbles seemed considerable larger. The foam produced is much whiter than chemical foam.

Where it is desired to keep the foam stream continually in operation, foam solution is poured into the canister as required. By this process, the foam line can be kept in operation indefinitely, requiring only a continual supply of water and foam solution.

Upper Left: New "Phomaire" nozzle in position for operating. Lower Left: Showing canister, or tank, which holds foam producing liquid. Upper Right: As foam from "Phomaire" nozzle was applied to tank of burning oil. Lower Right: Putting the finishing touches on fire.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Volume and Loaded Weight of Hose

To the Editor:

What amount of water will a 50-foot length of standard 2½-inch hose hold? Weight of same? Thank you.

A. H.

Answer: First find the cross section area of the hose. This is done by multiplying the diameter by itself and then multiplying the product so secured by 0.7854. This gives us a cross section area of 4.908750 square inches. Multiply this by the length of the hose line in inches, which is 600, and we get 2,945.25 cubic inches in the line of hose.

One gallon equals 231 cubic inches. Dividing, we find that the hose contains 12.75 gallons.

The weight of one gallon of water equals 8.35 pounds and the weight of 12.75 gallons is 106.4625 pounds.

The above assumes that the hose is not increased in diameter, or in other words, that it is not under high pressure.

Protecting Sprinkler Systems Against Freezing

To the Editor:

Where sprinkler heads are located in show-windows, or other places where exposed to temperatures below freezing, what should be used as an anti-freeze solution in the sprinkler pipes? Who could give the local authorities permission to render this service? I believe this is an important factor and should come under the supervision of Fire Department officials.

J. L. M.

Answer: Your above question was submitted to A. C. Hutson, Assistant Chief Engineer, National Board of Fire Underwriters, New York City, and the following information was submitted by him:

"In New York City during recent years it has been the practice to discourage the use of anti-freeze solution in sprinkler pipe. The installation of a dry pipe valve is recommended, where it is thought advisable to maintain year around protection. Special type valves, automatic and similar to dry pipe valves, can now be obtained as small as 1½-inch in size.

"Experience with sypho-chemical extinguisher systems indicates that calcium chloride makes a satisfactory anti-freeze solution to place in sprinkler pipes subject to tight joints, proper type sprinklers and periodic inspection and testing. There is on record one ordinary steel piping containing a solution of calcium chloride that has been in service for about 20 years without ill effect, except where a leak has developed, in which case corrosion took place on the outside."

Burning Gasoline on Street

To the Editor:

Suppose an oil truck sprung a leak and caught fire on a busy street, causing large quantities of burning gasoline to flow on the street and gutters, possibly igniting cars parked thereon. Is it advisable to flush the burning gasoline or oil down into the sewers, or confine it and let it burn out?

R. D. M.

Answer: The problem you raise is a difficult one to answer. If the fire can be extinguished in the burning gasoline on the street, the better policy would be to extinguish the fire and let the gasoline flow to the sewer, if the flow cannot be checked.

On the other hand, once the burning gasoline reaches the sewer, if there is no immediate explosion there is not likely to be any, for it indicates that the atmosphere in the sewer does not contain sufficient volatile gases to ignite. In this case, unless there is a very large amount of gasoline flowing, no particular harm would be done by letting the burning gasoline run into the sewer.

Where a large number of cars are parked, the problem is indeed hazardous. Possibly the best plan would be that indicated in your statement of the situation, namely, to flush the gasoline down the sewer and keep it well broken up so that the cars will not become ignited. Evidentally it would be poor policy to confine the gasoline and let it burn out on the street, where it would involve cars parked thereon.

Nozzle Pressure on Branched 1½-Inch Lines

To the Editor:

Will you kindly solve the following problem?

Twelve hundred feet of 2½-inch hose are laid, and connected to a Y from which are stretched two 250-foot lines of 1½-inch hose with ½-inch nozzles. There is an engine pressure of 200 pounds. What is the nozzle pressure?

I. B.

Answer: There are two methods of solving this problem; the first given is the more accurate of the two. The second, however, would probably be the most commonly employed.

First change the two parallel lines of 1½-inch hose to 2½-inch hose.

The factor for changing 1½-inch hose to 2½-inch is 0.074.

Two hundred feet divided by 0.074 divided by 3.6 equals 938 feet of 2½-inch hose.

In the above, the two operations of reduction have been combined into one. First, changing the 1½-inch hose to 2½-inch and then combining the parallel 2½-inch lines so secured into a single line of 2½-inch. The factor for changing two parallel lines to a single line is 3.6.

Then the layout may be considered as being a single line of 2½-inch hose, 1,200 plus 938, or 2,138 feet in length.

Next find the diameter of the nozzle equal to the combined areas of the 2 one-half inch nozzles.

This is done as follows:

½ x ½ = .25.
½ x ½ = .25.
.25 + .25 = .50.

The square root of .50 = .707 inches diameter approximately.

To find the value of K for any size of nozzle on 2½-inch hose we multiply the nozzle diameter by itself three times and divide by 10, or .707 x .707 x .707 x .707 ÷ 10 = .025. This is the factor K for a .707-inch diameter nozzle on 2½-inch hose.

L, the number of 50 foot lengths of hose in the line, equals 2,138 ÷ 50 = 42.76.

N.P. = E P ÷ (1.1 + K L).
= 200 ÷ (1.1 + .025 x 42.76).
= 200 ÷ (1.1 + 1.069).
= 200 ÷ 2.169 = 92.2 pounds.

The second method is to use the nearest standard size nozzle (in area) to the two ½-inch tips. The standard size nozzle having an area nearest to two ½-inch tips is a ¾-inch nozzle.

K for ¾-inch nozzle on 2½-inch hose line is 0.03164.

Solving for nozzle pressure we get:
N.P. = 200 ÷ (1.1 + .03164 x 42.76) = 200 ÷ 2.453, or 81.7 pounds.

Factors for Pipe Lines

To the Editor:

Kindly advise if you have a "K" for calculating friction loss in different sizes of pipe.

F. J. T.

Answer: Regarding factors for changing pipe to the equivalent of 2½-inch hose, an approximate rule which gives reasonably accurate values is as follows:

Multiply the fifth power of the pipe diameter (in inches) you are considering by 7.5 and divide the product by 1,024. This gives you the factor for changing the pipe under consideration to 2½-inch hose.

By the fifth power of the diameter of

the pipe we mean the diameter in inches multiplied by itself four times.

For example, if we want to find the factor for five inch pipe we proceed as follows:

5 x 5 x 5 x 5 x 5 = 3,125.
3,125 x 7.5 = 23,437.5.
23,437.5 ÷ 1,024 = 22.9.

This figure, 22.9, is the factor for changing five-inch pipe to 2½-inch hose.

George Towle, Ex-Chief of Larchmont, Dead

George Sibell Towle, for over 30 years Chief of the Larchmont Fire Department, and known as the "Father" of the "Fire Chief's Emergency Plan" of Westchester County, New York, died suddenly February 24, at his home in Larchmont.

He was 67 years of age and had been in poor health for some months. Owing to his failing health, he resigned as Chief of the Larchmont department last year and was made salaried Consultant Fire

The Late George S. Towle

Prevention Engineer of the Village. Chief Towle was seated at the supper table when he suffered the fatal attack. His family sent in a call for oxygen breathing apparatus in the hope that he might be revived. Appropriately enough the siren was sounding his special call, and the apparatus was responding, when he died.

Chief Towle was a native of New York City and came to Larchmont to live at the age of three. A year after the formation of the Larchmont Hose Company, the first fire-fighting unit in the village, he joined and was elected Chief the following year. He served as Chief at different times from 1903 to 1911 and from 1911 to 1935 headed the department continuously.

For 30 years he was an officer in the old Seventh Regiment, now the 107th Infantry, New York City. He led Company M of that regiment to the Mexican Border in 1916. Soon after this he retired with the rank of brevet major.

When George Towle first became Fire Chief, Larchmont's apparatus was all hand drawn. He saw the organization grow from its crude beginning to the present force of over 125 active firemen, with six pieces of motorized apparatus.

In September, 1928, in cooperation with the Lion's Club of Larchmont, he founded the "Fire Chief's Emergency Plan," often mentioned in these columns and which now has a membership of over 200 fire officers. This "Plan" was developed to insure efficient cooperation between Westchester County communities in the event of an emergency —chiefly that of conflagration. Similar plans have been inaugurated in Fairfield County, Conn., and elsewhere.

Upon his retirement as active Chief, the Board of Trustees and the Fire Department of Larchmont paid him appropriate honors. Upon his death resolutions of regret were passed by the Village, as well as by the Fire Department of Larchmont and other organizations throughout the County.

Special Masonic services were held at St. John's Episcopal Church, Larchmont, following the regular church services which were conducted by Rev. Francis J. H. Coffin, with Rev. Dr. Robert M. Russell as chaplain of the American Legion assisting. Interment was at Woodlawn Cemetery, New York.

Representatives of the various organizations to which Chief Towle belonged and his fellow Chiefs served as honorary pall bearers. The casket was borne by members of each volunteer fire company of the village.

Chief Towle is survived by his widow, Mrs. Florence (Hubbard) Towle, and by four sons and two daughters. Two of his sons, John Alden and Charles Sibell, are active members of Larchmont Engine Company No. 2, Charles Towle being First Lieutenant.

Roi B. Woolley.

Five Pumpers Tested for Alexandria, Va.

With a score of officials from Alexandria and several nearby cities and towns in attendance, five pieces of motor apparatus for the Alexandria, Va., Fire Department were given the official three-hour underwriters' tests at the dock of the Ford Motor Company. The tests were conducted under direction of A. C. Hutson, Assistant Chief Engineer, National Board of Fire Underwriters.

The equipment, consisting of two 1,250-gallon triple combination pumpers, one 1,250-gallon quadruple combination pumper and two 500-gallon triple combination pumpers, exceeding their rated capacities at the three pressure tests. They were placed in service at once, replacing apparatus that had been in use fifteen to eighteen years.

Specifications for the apparatus were drawn by Chief James M. Duncan, Jr. All the units are equipped with windshields, 100-gallon booster tanks, electric sirens and 1,250-foot capacity hose bodies.

The smaller pumpers will be used as hose trucks for the large pumpers stationed in the congested business district. The quadruple combination, which carries 248 feet of ladders, will be used in a suburban section. Total cost of the apparatus was $50,000.

In addition to this equipment, the city will have two 750-gallon combination pumpers, one 75-foot aerial truck, one ambulance and one Chief's car with two 500-gallon triple combination pumpers in reserve. Alexandria has a population of 30,000.

Following the tests, local and visiting officials attended a banquet at the George Mason Hotel. Communities represented were Alexandria, Richmond, Va.; Annapolis, Md.; Westminster, Md., and Forestville, Md. Mayor E. C. Davison of Alexandria was toastmaster.

A survey of Alexandria, the first since 1915, is now being made by the National Board of Fire Underwriters. Recently all water mains were cleaned and pressure increased to 45 pounds minimum.

H. L. Reade, North Dakota Firemen's Secretary, Dead

H. L. Reade, Secretary of the North Dakota Firemen's Association, died at Bismarck, N. D., on April 7. He had served as Secretary of the association for thirty-eight years.

Hilda C. Boe has been appointed Acting Secretary of the association, until the convention, which occurs at Oakes, N. D., on June 9 and 10.

Chief Herman Boettcher, seventy years old, has resigned as head of the department at Reedsville, Wis. He has served for forty-two years.

Officials Attending the Apparatus Tests at Alexandria, Va.

Left to right, Chief A. P. Orban, Baltimore County, Md.; Chief James M. Duncan, Jr., Alexandria; Asst. Chief Jack Raffo, Richmond, Va.; A. C. Hutson, Assistant Chief Engineer, National Board of Fire Underwriters; Councilman G. K. Bender, Alexandria; Councilman J. D. Matter, Alexandria; Alderman A. T. Elliott, Annapolis, Md.; W. W. Withers, Manufacturers' District Representative; Chief Jesse A. Fisher, Annapolis, Md., and A. D. Sullivan, Sales Manager of the builders.

Our inquiring reporter overhauls the firemanic news of the day.

No Kidding About Kansas Justice

Eldon King, aged 22, pleaded guilty to charge of second degree murder in connection with fire at Baldwin (Kan.) in which two women perished. King, former Baker University student, signed confession admitting starting fire to collect $1,100 insurance to buy meat market. His 47-year old mother-in-law, Mrs. Wiley Hausam and her mother, Mrs. Sarah Kline, aged 71, perished. King was sentenced to 50 years in prison. Such examples as this were said to have reduced the arson losses in Kansas considerably!

Smoking Sparrow Sets Blaze

An English sparrow picked up lighted cigarette and flew with it to its tinder-like nest in eaves of First Methodist Church Building, Ocala (Fla.). Result was a fire, which firemen quickly controlled. Only damage was hole chopped in roof—and sparrow's home. No one knows what happened to sparrow's family.

This'un Comes from Denver

A "joker" in the D.F.D. sends this in. Although not current news, investigation proves it true and worth repeating. It seems that Mrs. Mary Benson, aged 67, suffered from high blood pressure and lack of food, but is rather stout. Living alone, she became weak while in her tub, and in effort to get out, wedged herself under the faucets. Mrs. Jones, a neighbor was nearly arrested trying to get help. She called F.D. but in excitement gave wrong address. Next time she called, the operator said "yeah, that's a funny story, but if you bother me again with it, I'll turn you over to the police." A third time Mrs. Jones phoned from drug store, but gave no name. A police radio car responded, invited her to station for observation. However, she induced them to visit Mrs. Benson's home where, shocked (?), they called F.D. Firemen threw blankets over naked woman, gave her nourishment, before prying her out of tub and trouble.

Turkey, Cash and Watch Rescued

The McGloin family, Lynn (Mass.), gave Chief William Welch (L.F.D.) plenty trouble when three story tenement burned March 7. Responding to alarm, F.D. found 21 tenants, including 15 children had reached safety. Then Mrs. McGloin, a widow, remembered she'd left money in two glass jars in her apartment. Chief Welch found jars —broken, but threw glass and cash in box and brought them out. Then a McGloin child yelled for his wrist watch. Again the Chief obliged. Finally came Mrs. McGloin, bemoaning a turkey left in her oven. Tired Chief made third trip emerging from building grasping fowl by one leg. Then fire was extinguished, loss $5,000.

No Respector of Presidents

President Roosevelt was returning to White House from Church March 8, accompanied by escort of motor cycle police and followed by car bearing Vice-President Garner and members of the cabinet. On Massachusetts Ave. presidential procession encountered roaring fire trucks whose bells and whistles drowned out police sirens. Presidential and other cars in procession quickly pulled to curb and gave firemen right of way. Papers failed to state whether nation's Chief, like any 100% "fire fan," "buff," "piker" or other follower-of-the-firemen, tagged along after the apparatus.

More Obliging Firemen

No end to calls made on willing firemen! Firemen responding to alarm in Holyoke (Mass.) found it false. But run was not wholly in vain. As apparatus was turning around to head homeward, woman ran into street and flagged a driver. Said she wanted to call a doctor for one of her family, but none of neighbors had phone. Would firemen summon physician? Sure! Back at station firemen succeeded in locating doctor who attended to the call. All in the day's work!

'Nother Fire House Goes Up In Smoke

It's a poor month that doesn't see at least one fire house consumed by flames. Latest was that of municipal jail and firehouse at Frederica, 12 miles south of Dover (Del.). Police and fire service was housed in garage. This caught fire, was destroyed along with an automobile agency. Fire burned three hours, keeping firemen dodging exploding oil and gasoline drums. Apparatus reported saved.

A Bundle of Clippings From Beverly (Mass.)

John Callahan, call man in the Beverly (Mass.) F.D., is responsible for these news bits:

Christmas Eve was so green in Lawrence (Mass.) that all but one piece of apparatus was called out to fight a single grass fire.

Mrs. Esther Pokross, Fall River (Mass.), wanted an electrician to fix her lights. Called F.D. by mistake. Then she complained to police that firemen rushed in and dirtied up her floor.

Firemen of Prospect Park (Pa.) were ready to adjourn regular monthly meeting. "We're all here now; all we need is a fire" said someone. The telephone rang. All hands rushed to extinguish fire in rathskeller.

Watertown (Mass.) F.D. claims record as quietest fire fighters. Seems that a $200 fire in cellar of Mrs. Katie Gilmore's home was put out by the tip-toeing, hush-hush firemen without ever waking Mrs. Gilmore. Whereupon she wrote laudatory letter. Wasn't a "still" alarm, either.

"Borrowed Engine" Earns Suspensions

Cellar of restaurant in Mount Ivy near Haverstraw (N. Y.) was flooded in April. Mrs. Amanda Kennedy, proprietor appealed for pumper to remove water—was refused by F.D. Two firemen, Joseph Barbera and John Campbell however, without orders, sneaked shiny "Engine No. 4" out but found suction line too short, so smuggled engine back into quarters. Unfortunately, somewhere along route fireman Barbera broke arm, gave secret away, and Chief Charles M. Fales suspended both men.

News Flashes

Fireman Paul Shapro, 39, Los Angeles (Cal.) F.D., awoke to dawn alarm; slid pole. Alarm was outside company's district. Comrades noticed him stagger and grow pale. Left him drinking hot coffee, when another alarm called them away. When they returned he was dead. Heart attack. . . . Crushed under speeding fire truck, Edward J. Coiley, 61, Chief of Moravia (N. Y.) Vol. F.D., was almost instantly killed. . . . H. & L. Truck of Philadelphia (Pa.) F.D., ordered to remove hanging sign, crashed into crowded street car in Germantown section, injuring 25 persons, three firemen seriously. . . . Eighteen Mexican soldiers reported killed when military truck loaded with several drums of gasoline overturned, setting fire to truck, roasting imprisoned men. . . . Twenty persons were killed many injured in another Mexican disaster when dynamite exploded. . . . H. E. Dorthley, elderly mushroom grower, Los Angeles (Cal.), was trapped in labyrinth of tunnels under his burning house and rescued by searchers who donned oxygen masks. . . . N. Y. F.D. completed inspection of 1,832 cabarets and dance halls and ordered fire hazards eliminated in 1,005 of them, Fire Commissioner J. J. McElligott announced recently. . . . When a blaze destroyed Rossiter House, Nyack (N. Y.), 22 boys were carried to safety by firemen.

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair—if it's suitable it will ultimately find its way into print.—**Editor, Watch Desk.**

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire-fighting, etc. Address "Editor, Watch Desk."

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of April, 1936. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending April 30	Loss in Thousands of Dollars
Fort Benning, Ga.—Frame structure destroyed	$50
Shenandoah, Pa.—Hokderman bldg. and adj. property	80
Leitchfield, Ky.—Grayson County Courthouse destroyed	80
Brooklyn, N. Y.—Firestone Service Stores damaged	80
Charlotte, N. C.—Armour & Company, office and warehouse	50
Ellington, Mo.—Mills of Geo. C. Griffith Co. and Egyptian Tile Co.	50
Haverstraw, N. Y.—Capitol Theatre damaged	80
New York, N. Y.—Beaux Arts Studios damaged	400
Cincinnati, Ohio—Messer Confectionery Co., adj. business property	50
Detroit, Mich.—Bldg. occupied by Gatley's Clothing Company	300
Philadelphia, Pa.—Bldg. partly occupied by M. Sickle & Sons	80
Demotte, Ind.—21 buildings, including business and residential property	200
Concordville, Pa.—Richard & Schrader Hardware store	50
Tampa, Fla.—Property of U. S. Phosphoric Products Co., 11 miles south	80
Manistee, Mich.—Shirt factory of Marshall Field Mills Co.	120
Rushville, Ind.—Main bldg. of Rush County Grain Mills destroyed	50
Brighton, Mass.—Philosophy bldg. at St. Johns Seminary	80
Chicago, Ill.—Douglas House, a apartment hotel	50
S. San Antonio, Tex.—Plant of Bain Peanut Co., 1 mile south	70
Des Moines, Iowa—Plant of New Monarch Machine Co.	80
E. Syracuse, N. Y.—Heman Street School destroyed	80
Allan, Sask.—Five business premises and a dwelling	50
Helena, Ark.—Lumber yard of Theo. Fathauer & Co.	80
Fort Smith, Ark.—Trestle approach of Kansas City Southern R. R.	180
Athens, Tex.—Business and residential property	50
Yellville, Ark.—Business property	65
Fort Arthur, Tex.—Property occupied by Irvine Furniture Co.	60
New Orleans, La.—Sash factory and four dwellings	70
Jacksonville, Fla.—Girls' dormitory of Edward Waters College	80
Altoona, Pa.—Flatiron building damaged	80
Dayton, Ohio—Plant of Auto Electric Equipment Co., destroyed	50
Iola, Kan.—Plant of United Brick & Tile Co., damaged	80
Carlisle, Pa.—Plant of Hollinger Mills Co., destroyed	65
Memphis, Tenn.—Tennessee Terminal Warehouse, Inc., destroyed	80
Buffalo, N. Y.—Lumber shed and offices of Great Lakes Lumber Corp.	50
Woodland, Cal.—National Theatre and adj. property	50
Nortonville, Kan.—Business property destroyed	60
Sharon, Pa.—Temple Circle Fraternity Insurance Co., building	350

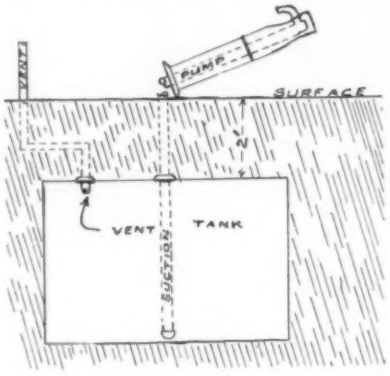
Richmond, Cal., has placed its new fire apparatus in service.

Falconer, N. Y., has purchased a Mack triple combination pumper. Another Mack pumper was sold to Corry, Pa. Both of these units have large booster tanks.

Williamsport Visited by Fire and Flood

Recent floods, which caused such widespread damage in various sections of Pennsylvania, were directly responsible for a fire which consumed six buildings and caused a loss of $160,000 in Williamsport, Pa.

In front of one of the flooded buildings were two curb gasoline pumps, side by side. The strong waters knocked over one of the pumps, and caused water to enter the gasoline tank. Vapor and gasoline were forced out of the vent



Sketch Showing How Fire Started

pump which was attached to the building eleven feet above the ground. The air-mixed vapor exploded.

There was ten feet of water in and around the building, and the Fire Department was unable to give much assistance, for there were no boats available. The few rowboats that were nearby were unable to make any headway against the strong current.

However, there was a motor boat in the vicinity, and it was used to rescue eighteen people from the buildings involved.

The same day another fire occurred at 4:30 p.m., when flood waters entered the storage building of the National Carbide Company. The loss was $7,000. All telephone and fire alarms were out of service for five days.

Ex-Chief Chris O'Brien, Shreveport, Dead

Chris O'Brien, former Chief of Shreveport, La., and widely known in fire fighting circles, died at his home at the age of sixty-nine, following an attack of pneumonia.

He was born in Philadelphia on May 6, 1867, and came to Shreveport in 1890. In 1891 he served as a fireman for six months and resigned to take a job on a Red River boat. Two years later he rejoined the fire service.

He served as tillerman until May 4, 1899, when he was promoted to Captain, and six months later made Assistant Chief. When Chief Louis Danbruen resigned on July 17, 1902, Mr. O'Brien was appointed Chief.

Chief O'Brien was exceedingly popular with the residents of his city and with his men, and was an ardent worker for the fire service. In 1909 a local newspaper conducted a popularity contest. He came in second and was awarded a player piano. He sold the piano and with some additional money purchased an automobile which he turned over to the city.

He resigned from the department, effective August 15, 1923, because of ill health, and later started an insurance business.

Chief O'Brien was a thirty-second degree Mason, a member of the B. P. O. Elks, the Rotary Club and other organizations. He was very active in the I. A. F. C., and the state fire chiefs' groups.

The late Chief is survived by his widow, one daughter, one son and a brother.

Ex-Chief Moore, Memphis, Dead

John Moore, formerly Chief at Memphis, Tenn., died as the result of a heart attack, about two years after he was asked to retire. He was born August 30, 1865, and entered the department in May, 1890. He was promoted to Captain in April, 1903; Assistant Chief, January, 1910; Chief, January 1, 1927. He retired on a pension, January 2, 1934. He is survived by his widow and one daughter.

Two Men Die in Hotel Fire

Two men lost their lives, and a girl was rescued by firemen, when fire broke out in the three-story Gross Hotel in Clairton, Pa. The building, constructed of brick and steel, located on the Monangahela River, eighteen miles above Pittsburgh, was practically destroyed. Fire started from an unknown cause shortly after midnight and was discovered by the night clerk who attempted to arouse some of the guests.

When Chief Francis Tepe arrived, the hotel was a mass of flames. A brisk wind was blowing and the temperature was below zero. The second and third floors were involved, and fire had broken through the roof.

Three men jumped from upper floors to the icy streets, each receiving some

Ruins of the Gross Hotel

injuries. A waitress trapped on the top floor, waited until firemen raised a ladder and led her to safety.

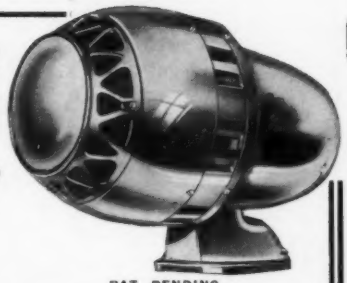
Chief Tepe injured his left knee and left hand at the fire and was off duty for three weeks.

WILLIAM E. PATTERSON

Hazleton, Pa., has placed new Mack fire apparatus in service.

THE NEW *and* IMPROVED *STREAMLINED*

C-5



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WITH FLASHING LIGHT

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2. ***LIGHT that flashes on and off with siren roar.***
3. ***ECONOMY—it actually coasts for more than 120 seconds.***

■ ***Think of it***—more than two minutes after current is shut off—that saves your battery. Greased sealed ball bearings—rugged in construction—fully chrome plated with strong candlepower light. Strong beams of light flashing on and off with siren roar floods streets with noise and light for blocks ahead, protecting lives, property and expensive fire fighting equipment. ***With or without Electric Brake.***

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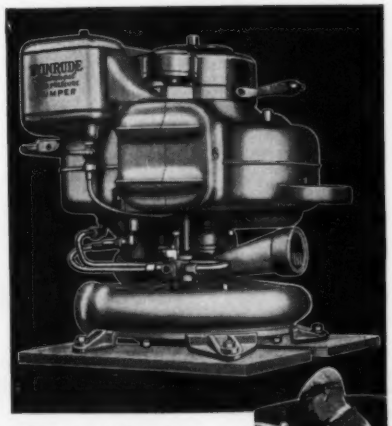

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Barton U-Type Fire Pumps are designed to protect the truck motor against the wear and tear of excessive speeds. They are regularly equipped with a BUILT-IN GEAR DRIVE which reduces motor speed to approximately ONE-HALF of pump speed.

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AND FRONT-MOUNTING SAVES PLENTY

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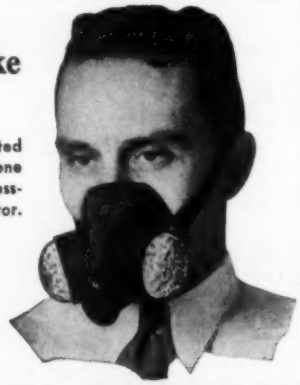

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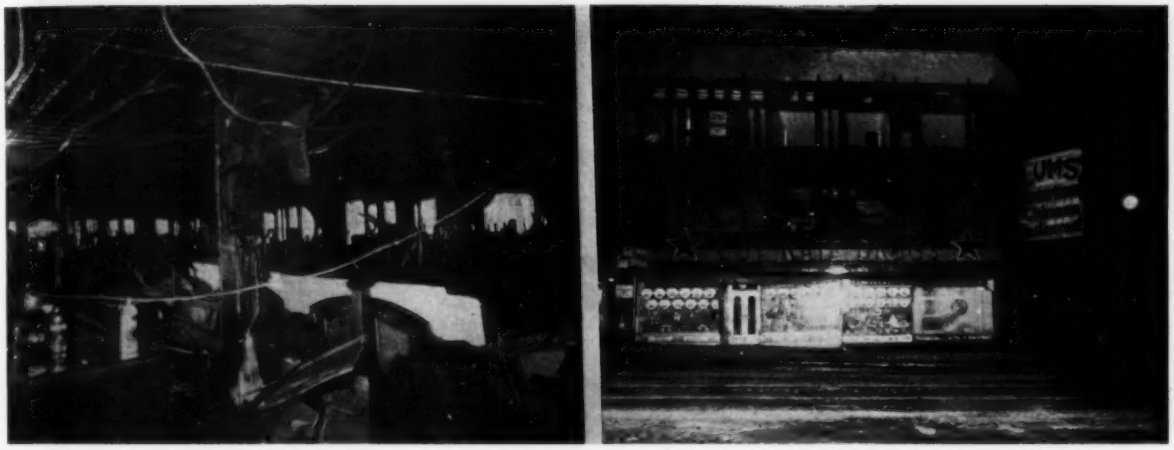

The Interior and Exterior of the Restaurant Building After the Fire Was Extinguished. Failure to Comply With Orders to Evacuate Resulted in Loss of Life and Personal Injury.

FATAL CHINESE RESTAURANT FIRE GAINS NEEDED CHANGES FOR CITY

Holiday Crowd of Diners Refuses to Evacuate Building When Fire Breaks Out in Store Below, and Nine Lose Lives in Stampede

By Wm. Jerome Daly

ONLY at the expense of nine lives did legislators appreciate the importance of granting the New York Fire Department the right to inspect and supervise places of public assembly, and return to the department a privilege which previous measures had transferred to the jurisdiction of the Building Department.

The fatal fire occurred on the night of Lincoln's Birthday, in a Chinese-American restaurant located on the second floor of a modern three story building on the southeast corner of 59th Street and Lexington Avenue.

Fire was in the show window of a haberdashery on the Lexington Avenue side of the building. Three men had been dressing the window, which contained fifteen electric lights. The men were called to another part of the store. One of them told Fire Marshal Brophy that he had smelled "burning sugar," but could not detect any smoke. Another said he went to the rear of the store, but in a few minutes he glanced toward the front, where he saw the show window aflame. The fire was in the window drapes. The three men tried to extinguish the flames with pails of water, but the fire increased and one of the trio ran out and pulled an alarm box at 9:21 p.m. In the interim, one of the men opened the store door to ventilate the place so that he could breathe.

Refuse to Obey "All Out" Order by Fire Officer

The men denied they had been smoking at any time in the store. When the first detachment of firemen arrived, the fire was leaping out of the store door. The chauffeur for the first due Chief ran upstairs to the Chinese restaurant and ordered "All Out." He heard somebody shout "Go to Hell."

The restaurant embraced the entire second floor of the building. It had the customary stalls or booths and a licensed liquor bar. Typical of its type, it was decorated with rayon drapes swung from sides and corners and festooned in the ceiling (much like the Study Club fatal fire setting in Detroit a few years ago). The Chief's driver returned to the street and reported that 150 persons were in the restaurant.

The first alarm brought four engine companies, two trucks, one Division Chief and two Battalion Chiefs. The second alarm was sounded at 9:27, bringing four engines, one truck, Rescue No. 1, Tower 3 and Assistant Chief Pat. Walsh. Further orders were issued to clear the restaurant.

The restaurant had two stairways—one on Lexington Avenue and one on 59th Street. The orders of the Fire Department to "Get Out" were not obeyed by the holiday diners, although the firemen came up again and again ordered "All Out." Smoke began to seep through the large swivel windows. Soon a policeman appeared. He stood on a chair, blew his whistle to get attention, and ordered the people out. A man in one of the booths (dining with a woman) told the cop what he ought to do to himself.

Nobody was in a hurry to depart. They had food and drink to dispose of. Some of the holiday revelers told Fire Marshal Brophy that they mistook the smoke for burning incense. While firemen were demanding that the patrons make hasty exit, the restaurant window over the store cracked from the heat of the fire below.

Suddenly the flames shot through the opening and "flashed." This caused a general stampede—some of the patrons went to the 59th Street stairway and others to Lexington Avenue. Many of them, however, rushed first to the coat check room to retrieve their coats. There were seventy coats (male and female) found on the coat racks after the fire. In the scramble, policemen and firemen who were in the restaurant to drive the patrons out, were trampled on like others. The oriental cashier of the establishment ran back to save the day's receipts. He recovered the cash but lost his life. By this time the firemen had hose lines on the restaurant floor. They put the fire out, but the stampede was so sudden, so fast, and so furious, that the damage was done before the flames were extinguished.

The stairs were forty-four inches wide—of marble, concrete and iron, from street to roof. The doors of the restaurant were of the swing type—metal and glass.

A Church Society of the neighborhood was holding a holiday dinner there. The clergyman, who is the Moderator of the society, said that he told the members of his flock (all of Latin temperament) to flee, but they were having a good time and paid little attention to him.

In addition to the nine who succumbed from burns or smoke, about thirty others were injured and taken to hospitals. This included two firemen and one policeman, who were burned.

The restaurant is owned by a corporation, of which Ralph Levy is president. There were no violations of law pending against the place.

Legislature Restores Bureau to Fire Department

Fire Commissioner John J. McElligott seized upon an opportunity to use the fire and its fatal results to emphasize in the public mind the need for giving back to the Fire Department the power it had for seventy years to make inspections and to issue and enforce orders for the protection of life and property from fire. He used the press, radio and newsreel. Mayor LaGuardia sent an emergency message to the Legislature. The latter soon took appropriate action which restored to the Fire Department the power of regulating

licensed places of public assemblage, as well as of the manufacture, sale, transportation and storage of combustibles, chemicals, oils, explosives, etc. Commissioner McElligott's efforts were opposed by the Building Department of the city, with the argument that the Building Commissioners desired control only for the purpose of centralizing inspections and eliminating duplication of inspectional activities, which they said were irritating the public for many years.

Commissioner McElligott had the wholehearted editorial support of all the New York newspapers, as well as the moral help of the civic associations, Boards of Trade and Commerce, and the merchant groups of the city.

Many Inspection Orders Since Issued

Since the enactment of chapters 51 and 52 of the laws of 1936, inspection of 1,832 dance halls and cabarets was made to determine the fire hazards which exist, with particular reference to draperies and decorations which had not been flameproofed.

Orders were issued against 1,005 places and 210 places which had been listed, were found "closed."

Fire Commissioner McElligott said: "Re-inspection will be made after a reasonable time has been given to conform with the regulations of the Fire Department in regard to the discontinuing or flameproofing of drapes."

Captain George J. Foster, in Charge of the Division of Licensed Places of Public Assembly, directed the work of the staff of inspectors.

In Manhattan, The Bronx and Richmond, 1,028 dance halls and cabarets were inspected and of this number 553 orders were issued to discontinue the use of, or otherwise flameproof, draperies and decorations.

In Brooklyn and Queens 804 places were inspected and 452 orders were issued to comply with the Fire Department regulations.

Fairfield Chiefs Learn About English Fire Fighting

Chief Arthur Chambers, Yonkers, N. Y., was the principal speaker at the regular meeting of the Fire Chiefs' Emergency Plan of Fairfield County, which was held at Town Hall, Ridgefield, Conn., on the evening of Wednesday, April 22, his subject being "The London Fire Brigade." Chief Chambers described interestingly the various feature of the English systems of fire fighting and fire protection.

The Plan was welcomed by Chief Horace Walker and later by Alderman George Schweitzer, and Councilman Henry Zinser, respectively Chairman and member of the Town Board of Ridgefield.

There was some discussion on the proposed state fire school, and it was voted to endorse the plan.

The nominations for officers for the ensuing year, to be elected at the annual dinner to be held in May, was presented by the Nominating Committee as follows:

President—Chief Sydney Stapely, Nichols.
First Vice-President—Chief Horace Walker, Ridgefield.
Second Vice-President—Assistant Chief Bernard Scully, Westport.
Third Vice-President — Chief Thomas Boyle, Noroton.
Treasurer—Chief George Brencher, Darien. (Renominated.)
Board of Directors (Two Years)—Chief F. R. Gisborne, Old Greenwich; Chief Harry Askew, Turn of River; Chief John McNamara, Danbury, and Chief Victor Veit, Stamford.
Board of Directors (One Year) — Chief Daniel Knickerbocker, Springdale; Ex-Chief Peter Beckerle, Danbury; Chief Charles Volk, South Norwalk, and Fire Commissioner Clifford Merwin, Shelton.

Device for Pumping Out Hydrants

A small portable, hand operated pump, for pumping water out of hydrant barrels, has been invented by Arthur W. Strothman, a member of the Cincinnati, Ohio, Fire Department.

The pump weighs 6.5 pounds. It is constructed of aluminum with bronze gears. It has a socket to fit the operating nut of hydrants. By actual test, but two minutes were required to pump out a hydrant.

A. W. Strothman Demonstrating His Pump

The pump has been commended by Chief Barney Houston, William Beckner, Superintendent of Equipment, and other members of the department.

Mr. Strothman has been a member of the department for sixteen years. Papers have been filed for patents on two other appliances for Fire Department use.

Lumber Yard Razed at Waterbury

In one of the most spectacular and costliest fires that has occurred at Waterbury, Conn., in a decade, the huge lumber plant of the Connecticut Lumber Company, Inc., on Highland Avenue, was virtually destroyed with an estimated loss of $130,000.

Fire started shortly before 3 p.m. Three buildings of two stories each, a truck, mill machinery, cement mixers and thousands of feet of lumber were consumed by the flames despite the efforts of six companies of the Waterbury Fire Department and one company from the town of Naugatuck, a suburb.

The fire started in a small shack near the Highland Division tracks of the New Haven Railroad Company on the west bank of the Naugatuck River and rapidly spread attacking pile after pile of lumber. Firemen were handicapped by insufficient water pressure. Three pumpers of the Waterbury department were coupled in a hose line about a mile long and the stream was split at the lumber yard to provide two lines, which were used to keep the flames from spreading.

Another siamesed line was in charge of Naugatuck firemen. A third line was brought into play near the railroad tracks. One handicap in checking the blaze from spreading was the frozen lumber. Piled high, the lumber was wet on the top of the pile, but lower down it was frozen so tightly together the firemen found it impossible to pull it apart and make a fire lane.

The fire was discovered by a supernumerary policeman, who called Fire Headquarters at 2:41 p.m. Chief Thomas Lynch and Acting Deputy Chief Martin Campion responded on the second alarm with several companies.

Chief Lynch and Acting Chief Campion estimated the loss as follows: Lumber and other supplies, $75,000 to $80,000; buildings, $20,000; tools, machinery and equipment, $25,000 to $30,000.

THOMAS F. MAGNER.

Massachusetts Fire Chiefs' Club Meets

L. S. Johnston, of the Davis Emergency Equipment Company, was the principal speaker at the meeting of the Fire Chief's Club of Massachusetts, which was held in the Parker House, in Boston, on March 18. His subject was "Gases Encountered in Fires and the Proper Use of Gas Masks.

Chief Charles L. McCarthy, Worcester, presided. The following new members were elected: Fire Commissioner Nelson Feeley, West Springfield; Chief George W. Goodspeed, Chatham; and Chief John A. Doyle, Newburyport.

Chief Herman Gutheim, of Cambridge, reported for the Legislative Committee. Chief Frank Newman, Melrose: Chief James Evans, Everett; Chief Ray D. Wells, Falmouth; Chief William C. Mahoney, Peabody; and Chief Fire Inspector George O. Mansfield spoke briefly.

The April meeting of the club will be held in Springfield. HARRY BELKNAP.

New Haven Stages Show

A crowd estimated at 7,500 packed the huge New Haven Arena, at New Haven, Conn., on the night of February 18, to witness the All-Star Show given by the Firemen's Benevolent Association of the New Haven department. Eight acts of high class vaudeville were on a well balanced program.

The committee in charge of the show, all members of the New Haven Fire Department, were: Chief Lawrence E. Reif, Honorary Chairman; Asst. Chief F. O. Spaine, Asst. Chief J. F. Dunn, Fire Marshal Paul P. Heinz, Captain Eugene Westville Mulligan, Captain

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FIRE CHIEF'S SPECIAL

If you are interested in a standardized uniform shirt for your department and your dealer cannot supply Signals, write us. Give us size and style preferred and we will submit a sample shirt prepaid for your inspection and quote prices.

JOHN RISSMAN & SON
SIGNAL SHIRT DIVISION
305 W. Adams St. Chicago, Ill.

IT'S THE CHIEF OF LOW-COST FLOODLIGHTS

The new Homelite portable floodlighting plant is one of the best firefighters that ever answered a call.

Weighs Only 89 Pounds . . Low in Cost . . Runs Several Brilliant Floodlights

The 1250-watt generator with built-in gasoline engine gives you bright, flickerless light at a small fraction of the cost of a floodlight truck. One man carries it easily wherever you want it. Starts instantly in any weather—needs no further attention. Voltage automatically remains constant. Waterproof, dustproof, and oilproof. Fits snugly on any running board.

There are more Homelites in firefighting service than all other makes combined. Two models: the 71-lb., 650-watt, and the 89-lb., 1250-watt.

Send for descriptive bulletins.

HOMELITE Corp.
905 RIVERDALE AVENUE PORT CHESTER, N. Y., U. S. A.

Kill Incipient Blazes WITHOUT DAMAGE with the Instantaneous, Clean, Dry Action of LUX Carbon - Dioxide Extinguishers

LUX

FIRE CHIEFS USE THEM

FOR ALL ELECTRICAL and FLAMMABLE LIQUID FIRES

Walter Kidde & Company, Inc.
100 West St., Bloomfield, N. J.
Service and Sales Offices in all Principal Cities

ELK HART IND.

34 years service in the fire field

•

Prompt service Quality products

•

A PARTIAL LIST OF ELKHART PRODUCTS

Shut-Off Nozzles
Controlling Nozzles
Turret Pipes
Fire Department Extinguishers
Extinguisher Holders
Fire Truck Body Fittings
Hose House Equipment
All Types Hose Couplings
Sliding Poles, Railings and Canopies
Hose Test Pumps
Threading Tools
Coupling Expanders
Pump and Hydrant Valves
Hose Racks and Cabinets
Siamese Connections
Underwriters' Industrial Extinguishers

ELKHART BRASS MFG. CO.
ELKHART, INDIANA

WHAT FIREMEN'S COAT

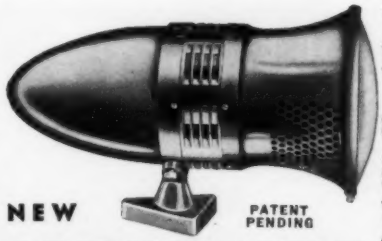
Is Made of Vanitex, the soft, flexible, long wearing, waterproof Material?
Has the Famous Safety Snap that can be fastened and unfastened with one hand in a jiffy?
Was worn by the Firemen at Chicago's "Century of Progress"?

THE ANSWER IS

MIDWESTERN

Send for our free illustrated catalog showing complete line of our rubber and canvas garments. Satisfaction guaranteed.

Midwestern Manufacturing Co.
Mackinaw, Ill.



NEW PATENT PENDING

SIRENLITE

Combination No. 20 Siren and Powerful Red Flashing Light. Price—$49.50.

You can **HEAR** *and* **SEE IT!**

A powerful siren and light combined. The most practical warning device for all apparatus. A precision built instrument, same sturdy construction as all Sterling Sirens. Write for bulletin.

The Sterling Siren Fire Alarm Co., Inc.
ROCHESTER, N. Y.

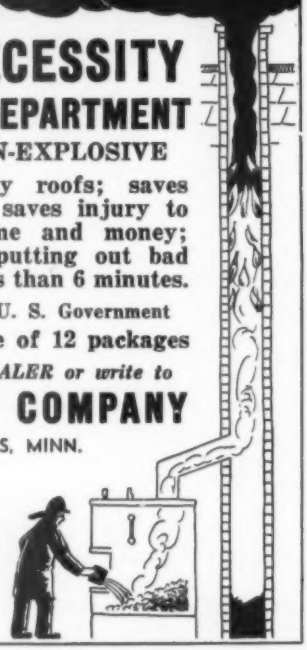
SOOT BLAST
Puts out chimney fires

A vital **NECESSITY**
IN EVERY DEPARTMENT
NO ZINC - NON-EXPLOSIVE

Saves climbing icy roofs; saves chemical damage; saves injury to firemen; saves time and money; cuts fire loss by putting out bad chimney fires in less than 6 minutes.

Now being used by U. S. Government
Price $4.50 per case of 12 packages
See your LOCAL DEALER or write to
The STEBIS COMPANY
MINNEAPOLIS, MINN.

SOOT-BLAST
Also comes put up in 100 lb. bags at $12.50 per bag.



RED COMET STOPS FIRE AUTOMATICALLY

and is now protecting hundreds of homes, stores, industrial plants, warehouses, garages, filling stations, automobiles, trucks and busses, in every state in the Union, in Alaska, Canada, and in hundreds of Fire Departments.

We want Fire Department men to represent us!

We have splendid openings in some territories where we particularly want Fire Department Men to represent us. Commissions are good—and we have a complete line of Automatics, Manual Grenades, Pump Guns, Soda-Acid and Foams in 2½ Gallon Size, Chemical Engines, Fire Sirens, and unusually good Fire Department Hose.

If you have any time on your present job, be sure to write us for Free Facts and complete information, which will be sent you without any obligation.

RED COMET, INCORPORATED
902 Red Comet Building — Littleton, Colorado

WARD LA FRANCE
HIGHEST QUALITY
MOTOR FIRE APPARATUS
Send in your Specifications for Prices

WARD LA FRANCE TRUCK CORP.
ELMIRA, N. Y.

STANDARD OF THE FIRE SERVICE FOR GENERATIONS

HILL BELLS

Price List on request.

Fire Departments, Dealers and Apparatus Manufacturers — here is a clear tone bell of Finest quality bronze — one of a complete line manufactured by—

N. N. HILL BRASS CO.
EAST HAMPTON, CONN.

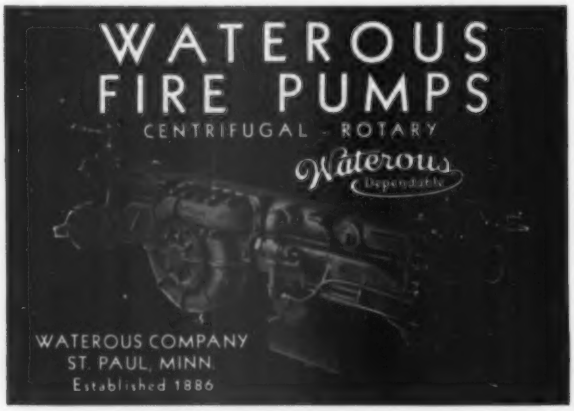
CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

COMPLETE INFORMATION UPON REQUEST

THE AMERICAN RUBBER MANUFACTURING CO.
OAKLAND, CALIFORNIA
Dealers in All Parts of the Country

WATEROUS FIRE PUMPS
CENTRIFUGAL - ROTARY



WATEROUS COMPANY
ST. PAUL, MINN.
Established 1886

Our Advertisers

have data and information which can help you greatly. Get in touch with them.

William P. Carleton, Lieut. Charles H. Brundage, and Firemen T. G. Welch, George Daven and Thomas F. Marino.

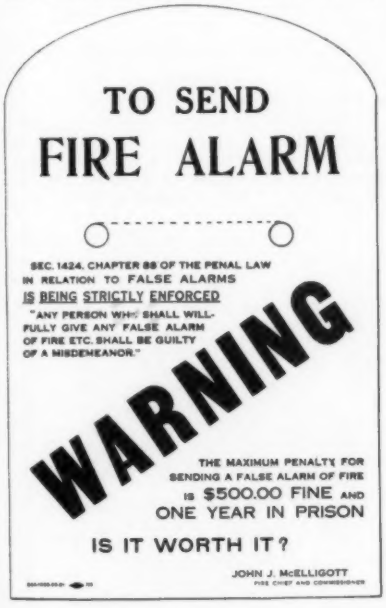
Several Fire Department officials from other cities in Connecticut were guests of the New Haven firemen at a banquet held prior to the show in the Palm Room of the Hotel Taft. A well arranged souvenir program was given to the patrons. Three pages of "Reminiscences of the New Haven Fire Department," by Captain Mulligan, featured the booklet. The proceeds of the show were turned into the funds of the Benevolent Association.

THOMAS F. MAGNER.

New York Starts Drive to Reduce False Alarms

Ten thousand placards, such as the one illustrated, have been printed for the New York Fire Department to be used in a campaign to lower the number of false alarms which are turned in each year.

Commissioner McElligott said that there were 12,800 false alarms in 1935,


TO SEND
FIRE ALARM
SEC. 1424, CHAPTER 88 OF THE PENAL LAW IN RELATION TO FALSE ALARMS
IS BEING STRICTLY ENFORCED
"ANY PERSON WHO SHALL WILLFULLY GIVE ANY FALSE ALARM OF FIRE ETC. SHALL BE GUILTY OF A MISDEMEANOR."
WARNING
THE MAXIMUM PENALTY FOR SENDING A FALSE ALARM OF FIRE IS $500.00 FINE AND ONE YEAR IN PRISON
IS IT WORTH IT?
JOHN J. McELLIGOTT
FIRE CHIEF AND COMMISSIONER

Placard for Fire Alarm Boxes

and that even though this was less than the number for 1934, it is still an appalling number. Last year's false alarms cost the city about $640,000, or approximately fifty dollars an alarm.

The cards are to be attached to the spade handle of fire alarm boxes. The printed message on the card lists the fines for the misdemeanor and asks if the thrill of sending in the alarm is worth the punishment.

Greenwich to Have Central Fire Station

Plans have been adopted for a Central Fire Station for Central Greenwich, Conn., which includes a large portion of the town of Greenwich, to cost $100,000. I. M. Hubbard is Chief of the Fire Department. A new 500-gal. pumper, with International chassis and equipped with a Barton pump, has been ordered. It will have two booster tanks of 308 gallons capacity. The apparatus will be delivered about May 15.

Chief Ostertag, Burlington, Ia., Dead

Chief Frank J. Ostertag, Burlington, Ia., head of the department since 1929, died at a local hospital following a three weeks' illness. He was fifty years old.

He entered the fire service on October 18, 1909. On October 19, 1917, he was advanced to Assistant Chief, and to Chief on April 5, 1929.

Chief Ostertag was a member of the Eagles and the Moose lodges. He is survived by his mother and a brother.

Rhode Island Chiefs' Club Meets

Chief Frank Charlesworth, Providence, presided at a regular meeting of the Fire Chiefs' Club of Rhode Island held at Providence, April 16.

L. S. Johnson gave a talk on the limitations in the use of gas masks in Fire Department work. Capt. Roger Wheeler, who is making a survey of drownings in Rhode Island, explained how the Chiefs could assist in preventative work and he asked their cooperation. Col. Thomas J. H. Peirce, Chief, State Division of Parks and Parkways, spoke on the conservation of forests and the relation of the wooded lands to water supply. He displayed motion pictures which showed activities at a CCC camp. Music was supplied by a "hill billy" orchestra from Washington Camp.

The club voted to endorse an amendment to House Bill 721, and to oppose the Jones' bill now in the General Assembly.

The May meeting will be omitted. A committee was appointed to arrange for a clambake at a meeting to be held in June.

A. ROBERT BLACK.

C. F. Maulen Celebrates Anniversary

Charles F. Maulen, District Manager, Gamewell Company, Dallas, Tex., celebrated his seventieth anniversary. He has been with the company for forty years. In 1901 he was sent to Berlin with exhibits illustrating American

Charles F. Maulen

methods of transmitting fire alarms. He remained in Europe until 1910, installing American systems in many of the larger cities.

Low Time for Tower Evolution

When fire broke out in a celluloid factory in Chicago recently, Battalion Chief Cody responded on the first alarm. The water tower was immediately put into service, in accordance with a new evolution performed by the department. The actual time for getting water from the mast and the two deck pipes was exactly four minutes, and this was done at a temperature of seventeen degrees below zero, with normal peak morning traffic in the streets.

Ex-Chief Stanners Dead

John Stanners, eighty-two years old, retired Chief of the New London, Conn., Fire Department, died at his home in that city on March 23, after a week's illness. The late Chief Stanners served in the New London Fire Department for fifty-two years and was retired on a pension September 1, 1923. The last twenty-four years of service in the department was as Chief. He was succeeded by the late Chief Charles H. Rose.

He was a charter member of Seaside Council, Knights of Columbus and was a member of the Fraternal Order of Eagles, the New London Lodge of Elks, and the New England Association of Fire Chiefs. He was also an honorary member of the New London County Fire Chiefs Association.

Surviving him are three sons, and a daughter, all of New London.

THOMAS F. MAGNER.

Maine Chiefs Meet at Richmond

Chief Joseph W. Randlette, Richmond, Me., was host to the quarterly meeting of the State Association, Fire Chiefs of Maine, held in Richmond on April 14.

Chief Oliver T. Sanborn, Portland, presided. An address of welcome was given by Selectman J. E. Umberhind, of Richmond. Chief Allen F. Payson, Camden, made the response for the association.

Supervisor Wilkins, of the Maine Forestry Department, gave a talk on "The State Forestry Department and Its Relation with the Fire Departments." Chief Alden, of Gorham, spoke on "Some Problems of Volunteer Departments."

Luncheon was served in Grange Hall after which the Chiefs inspected the pumping station of the Richmond Water Department and the flood damage in the vicinity.

At the afternoon session a demonstration of gas masks and of artifical respiration with an inhalator was given by members of the Richmond Fire Department and the drillmaster of the Lewiston department.

Chief Solomon A. Mercier, Rumford, told of Fire Department activities during the flood. Other Maine Chiefs described flood conditions in their towns and the measures taken to meet the emergency. Charles J. Breslin, Watertown, Mass., described flood conditions in the Connecticut Valley and work performed by Fire Department lighting units.

At the close of the meeting a trip was taken to view the ruins of the Dresden bridge. A banquet was served in the evening, followed by a round table discussion.

HARRY BELKNAP.

Manufacturers' Announcements

Evinrude Pump

A light portable pumper, suitable for fire protection purposes, has been developed by the Outboard Motors Corporation, Milwaukee, Wis. The motor is two cycle, four-cylinder, and is very light in weight due to the liberal use of aluminum in its construction. Dealers of the Evinrude outboard motors carry parts for this unit and can render service.

Evinrude Pumper

The lower illustration shows the ease with which the pumper may be loaded onto a truck

The 9.2 h.p. motor connected to the centrifugal pumper is capable of delivering up to 154 gallons per minute at pressures up to 160 pounds. The makers claim that the pump can handle generous amounts of sand and grit in the water without damage to the pump. The unit weighs sixty-two pounds. Special illustrated folders have been issued to give full data on this pumper.

Lux Fire Extinguisher

An illustrated folder describing the Lux fire extinguisher, has been issued by Walter Kidde & Co., 140 Cedar Street, New York, N. Y. There are hand type models, 50 to 100 pounds of gas models mounted on two-wheel carriages, and tanks that are placed as part of fixed installations.

New Pumper Delivered to Boston

Harry Carlow, New England representative, Ahrens-Fox Fire Engine Company, delivered a 1,000-gallon Ahrens-Fox pumper to Boston, Mass.

It has a dual valve six-cylinder engine, designed and built at the plant in Cincinnati. The unit is a twin triple piston type pumper of the latest form. It was built to deliver high pressures required by taller building structures.

Bookings for Demonstrations

An opportunity is offered to firemen by the Lovell Dressel Co., Inc., Arlington, N. J., makers of the Gilson All-Angle Nozzle, to learn the use of this equipment. Demonstrations will be arranged, without cost or obligation, for groups of firemen gathered for schools, conventions, field days or other events.

Garrison Products

A pocket size, illustrated booklet has been issued by the Garrison Engineering Corporation, 420 Lexington Avenue, New York, N. Y. Data are presented on the various models of du Gas extinguishers. The company also builds pumpers of 200 to 1,200-gallon capacity. There are also the automatic and manual extinguishing systems. The booklet has thirty-five pages.

Automatic Light Switch

An automatic light switch has been designed by the Gamewell Company, Newton, Mass., for installation in fire stations and other places where there is a need for automatically switching on lights when a fire alarm is received, and switching off the lights after a predetermined period of time has elapsed. Illustrated equipment data sheets, LS1-1 have been issued to describe the new switch.

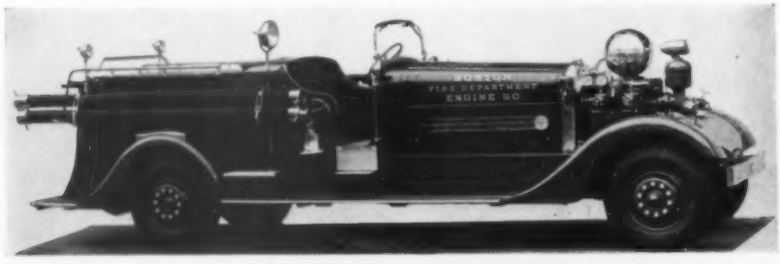
Cotton Linen Lined Hose

The American Fire Hose Company, 1500 Walnut Street, Philadelphia, Pa., has recently developed, and is marketing, a double jacket hose which has a cotton jacket on the outside and linen on the inside. The hose is made three inches in diameter with 2½-inch couplings. The fabric is so constructed that two weft or filler cords of the inside jacket fit snugly into one of the outside jacket. In this way the manufacturers state that they have avoided creeping of the jackets as the result of pulsation and friction. The hose has been treated to prevent mildew.

Safety at Sea

Walter Kidde & Co., 140 Cedar Street, New York, N. Y., has issued an illustrated booklet on "A Contribution to Safety at Sea." It describes fire equipment installations installed on ships which automatically rings a fire gong at the first trace of smoke in a cargo so that the fire can be extinguished, while in its incipient stage, with carbon dioxide gas.

Nineteen cargo and similar spaces on the "Queen Mary" will be protected by the Lux-Richaudio, audible smoke detecting and carbon dioxide gas extinguishing system. The film locker, gasoline store room, and cinema rooms are protected by individual Lux standard flooding systems.



Ahrens-Fox Pumper Delivered to Boston

James J. Kenlon Dead

James J. Kenlon, retired marine engineer of the New York Fire Department and brother of Ex-Chief John Kenlon, died at his home in the Bronx after a long illness, at the age of seventy-three.

He was born in Ireland and entered the fire service in 1908 as a stoker. He became a marine engineer in 1916 and served on several fireboats. Mr. Kenlon retired on February 1.

He is survived by his widow, his brother, and a son.

Florida Firemen Meet at Key West

The eleventh annual convention of the Florida State Firemen's Association was held at Key West, Fla., on April 20 to 22. There were several excellent papers presented on topics of interest to the members. It was decided to meet next year at Sarasota.

At the election of officers, the following were chosen:

President—M. N. Cleveland, Sanford.
Vice-President—Homer A. Hill, Miami.
Secretary (reelected)—F. C. Pfaender, Winter Haven.
Treasurer—B. B. Hart, Daytona Beach.
Statistician—M. A. Pfaender, Winter Haven.

It was announced that there would be a joint meeting of the districts in Winter Haven on June 14 and 15, 1936, so as to give everyone an opportunity to attend at least one convention a year.

Chief Sullivan Given Charge in Emergency

(*Continued from page* 183)

The need for somebody to relieve the tensity of the situation was apparent and the radio station located in the heart of the stricken area asked permission to go on the air to notify the citizens of the true existing conditions.

City officials nominated the Chief as the man of the hour in the situation, and accordingly Chief Sullivan broadcast a message to the people asking their cooperation in not unnecessarily exposing themselves to danger by coming downtown, and said that with the help of Divine Providence, the city would come through the situation unscathed.

Complying with the Chief's mandate, downtown Utica was a deserted section for a day and a night, and the spectacle of a business section with only utility workers and firemen and police in evidence was an epic making sight.

After a titanic struggle against tremendous odds the fire died out when the flow of gas was shut off and new gas mains replaced the defective ones.

TWO FACTS, CHIEF!

(1)--The GARFIRE GUN, in homes, stores, factories, all buildings, will reduce fire losses and fire department work. (2)--If *you* are GARRISON-EQUIPPED, you will be able to handle any type of fire effectively when you roll in. . . . Write for full details.

GARRISON

COMPLETE FIRE CONTROL SERVICE

From the 3½-lb. GARFIRE GUN, which anybody can handle, and which will put out instantly in its incipiency the most threatening fire—in oil, grease, alcohol, lacquer—anything to the world's most effective and most complete line of Motor Fire Apparatus.

THE DRY METHOD

The GARRISON *DRY* Compound used in all Garrison Appliances won't freeze, cake, corrode, or evaporate. Harms nothing but fire. Doesn't deteriorate. Costs nothing to maintain. Always ready.

GARRISON ENGINEERING CORPORATION

Factories and Executive Offices:

GREAT BARRINGTON, MASS.

Branches and Distributors in Principal Cities.

Sole Exclusive Manufacturing and Sales Licensee under all DuGas Company patents—U. S. Patents 1,793,420; 1,839,658; 1,866,981, and others issued, and patents applied for—and foreign patents both issued and pending—as well as under GARRISON "patent applications pending."

ALUMINUM LADDERS

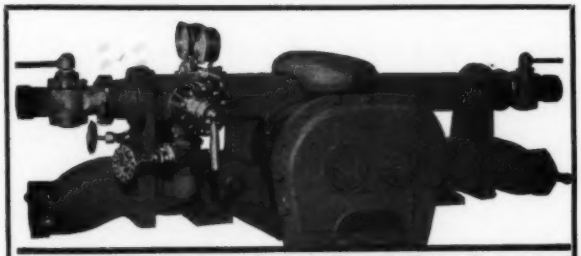
Greater Safety—Easier to Handle

Give your men ladders that will give them greater safety. See and specify Aluminum Ladders. They cost no more than wood and will not burn, warp, rust or break. Never need paint or any other upkeep.

All sizes from 20 to 55 foot extension ladders. For replacements and for that new ladder truck — always specify Aluminum Ladders.

ALUMINUM LADDER COMPANY

207 WOOD STREET, TARENTUM, PENNA.



NORTHERN PUMP COMPANY

ESTABLISHED 1907

MINNEAPOLIS, MINN.

FIRE PUMPS HALE CONSHOHOCKEN

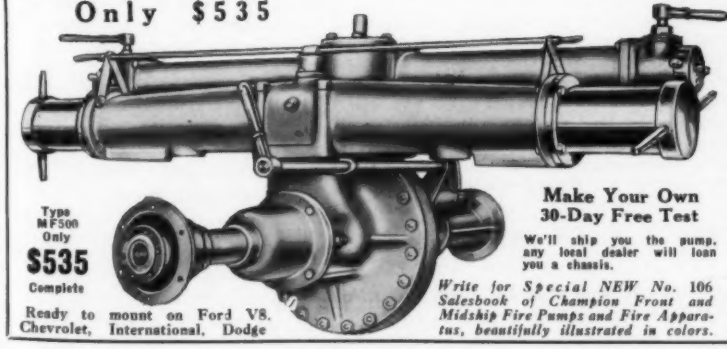
THE untiring policy of the Hale Company to continually improve designs and methods of manufacture has been thoroughly backed up by the installation of modern machinery of advanced design and performance. Hale pumps reflect this policy.

HALE FIRE PUMP CO., Inc.

CONSHOHOCKEN, PA.

Sensational NEW Midship Champion

Only $535



Type MF500 Only **$535** Complete

Ready to mount on Ford V8, Chevrolet, International, Dodge

Make Your Own 30-Day Free Test

We'll ship you the pump, any local dealer will loan you a chassis.

Write for Special NEW No. 106 Salesbook of Champion Front and Midship Fire Pumps and Fire Apparatus, beautifully illustrated in colors.

A totally new achievement in centrifugal Fire Pump design by Darley engineers.

Weighs only 375 lbs.—specially engineered and built for mounting on 1½-2 ton standard truck chassis without overloading.

Direct drive off chassis propeller shaft. No gears. Simple and dependable. Nothing to go wrong.

Unconditionally Guaranteed for 10 Years.

Meets all requirements of the Underwriters and all State Actuarial Bureaus for 500 GPM Fire Pumps. But actually delivers 600 GPM at suction and 800 GPM from fair hydrants. Automatic Vacuum Primer.

Easily installed without mutilating chassis. Pump fits into the space now occupied by short shaft which connects propeller shaft with transmission. Installation completed in an hour's time.

You can mount the new Champion Midship Fire Pump temporarily on a chassis and make your own tests. If the Champion does not perform fully to your expectations it can easily be removed from chassis and we want you to return it and we will send your money back.

Complete, ready to mount, with Gauges, Booster Valves, etc.

W. S. DARLEY & CO.

2810 Washington Blvd. Chicago, U. S. A.

Every foot of

GOODALL FIRE HOSE

Represents over fifty years of manufacturing experience. This explains the high esteem in which it is held by so many cities and towns throughout the nation.

Write for our agency plan.

GOODALL RUBBER COMPANY
5 SOUTH 36th STREET
PHILADELPHIA, PA.

New York Pittsburgh Chicago Cleveland Houston

Bi-Lateral Fire Hose

The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.
Lined with three rubber tubes.

BI-LATERAL FIRE HOSE CO.
15 Park Row, New York, N. Y.
20 N. Wacker Drive, Chicago, Ill.

FLAT CURED— WAX and GUM TREATED—

Any type you want!

Quaker City makes a complete line of fire hose in a wide price range—but every foot of it is made to give you the best service you can get in its price class. For a complete list of brands and prices write us anytime—

QUAKER CITY RUBBER CO.
PHILADELPHIA, PA.

HEWITT-GUTTA PERCHA
FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"

Highly Endorsed by Fire Chiefs Everywhere!

***Chief Henry of Lexington, Ky.** writes:*

"The 'Fire Chief's Handbook' is the work of one of vast experience. Every fireman should have a copy for study and reference."

***Chief Gambrell of Dallas, Texas** writes:*

"It is very instructive and helpful. We find this book very convenient to refer to in our school work."

THE FIRE CHIEF'S HANDBOOK

By FRED SHEPPERD

In Collaboration with the EDUCATIONAL COMMITTEE *of the* INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book, a gold-mine of practical, helpful data, gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.

For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. *The Edition is Limited—Better Order Your Copy Today.*

CASE-SHEPPERD-MANN PUBLISHING CORP., 24 W. 40th St., New York City

$4.00 *per copy postpaid*

If the book isn't what you expected, return it within 5 days and your money will gladly be refunded.

Here are some of the subjects covered:

- FIRE DEPARTMENT TOOLS AND EQUIPMENT
- MOTOR FIRE APPARATUS PUMPS
- FIRE EXTINGUISHERS AND THEIR USE
- FIRE STREAMS
- FIRE-FIGHTING METHODS
- FIRE STATION DESIGN
- TRAINING OF FIREMEN
- SALVAGE OPERATIONS
- BUILDING INSPECTION
- VENTILATION AT FIRES
- CARE OF FIRE HOSE
- CHEMISTRY OF FIRE
- HEAT AND ITS ACTION
- DRILL TOWERS
- DRILLS AND EVOLUTIONS
- FORCIBLE ENTRY
- EXPOSURES
- STANDPIPE WORK AT FIRES

—and Many Other Things

CONVENTION DATES

May 11-13—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 14th Annual Convention and 7th Fire College, Albuquerque, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

May 11-15—NATIONAL FIRE PROTECTION ASSOCIATION. 40th Annual meeting, Atlantic City, N. J. Secretary-Treasurer and Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 19-22—OHIO FIRE SCHOOL. 7th Annual School, Ohio State University, Columbus, Ohio. Director, K. W. Stimson.

May 20—FIRE CHIEFS' EMERGENCY PLAN. Annual Dinner and Meeting, Elks' Club, Hamilton Ave., White Plains, N. Y. Secretary, Capt. Walter M. Dawkins, P. O. Box 341, Port Chester, N. Y.

May 26-29—IOWA FIRE SCHOOL. 12th Annual School, Ames, Ia. Director, Lindon J. Murphy, Municipal Engineer, Iowa State College, Ames.

May 27—IOWA STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Ia. Secretary-Treasurer, Chief L. R. Morris, Ames.

June—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 31st Annual Convention, Camden, S. C., exact date to be decided later. Secretary-Treasurer, John H. Wohlers, Chief, Fire Department, Charleston, S. C.

June—NEVADA STATE FIREMENSS ASSOCIATION. 1st Annual Convention, Reno, Nev. Secretary, Norman Brown, Carson, Nev.

June 1-3—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 42nd Annual Convention, Enid, Okla. Secretary-Treasurer, Charles Slemp, 1701 Northeast 63rd Street (Box 69-A), Oklahoma City, Okla.

June 3-5—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 30th Annual Convention, Kingston, N. Y. Secretary-Treasurer, Chief Chris W. Noll, Poughkeepsie, N. Y.

June 9-10—NORTH DAKOTA VOLUNTEER FIREMEN'S ASSOCIATION. 52nd Annual Convention, Oakes, N. D. Acting Secretary, Hilda C. Boe, Bismarck, N. D.

June 9-11—STATE FIREMEN'S AND FIRE MARSHAL'S ASSOCIATION OF TEXAS. 60th Annual Convention, Fort Worth, Tex. Secretary, Olin Culberson, Edna, Texas.

June 9-12—ANNUAL FIRE COLLEGE, ILLINOIS FIREMEN'S ASSOCIATION. 12th Annual Fire College, University of Illinois. Director, L. H. Provine; Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

June 10-11—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. 31st Annual Convention, Garrett, Ind. Secretary, Russell Rowe, Garrett, Ind.

June 10-12—NORTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Carthage, N. Y.

June 14-15—DISTRICT SECTIONS, FLORIDA STATE FIREMEN'S ASSOCIATION. Sectional Meeting, Winter Haven, Fla. Secretary, F. C. Pfaender, Winter Haven, Fla.

June 17—NORTHWESTERN OHIO FIREMEN'S ASSOCIATION. 63rd Annual Convention, Bowling Green, Ohio. Secretary, J. W. Gardner, Ashland, Ohio.

June 17—WASHINGTON STATE ASSOCIATION OF FIRE CHIEFS. 4th Annual Convention, Tacoma, Wash. Secretary, W. A. Groce, Spokane, Wash.

June 17-20—WASHINGTON STATE FIREMEN'S ASSOCIATION. 14th Annual Convention and Fire School, Tacoma, Wash. Secretary, Lyle J. Ficklin, Kalama, Wash.

June 20—LEBANON COUNTY FIREMEN'S ASSOCIATION. 14th Annual Convention, Newmanstown, Pa. Chief Fire Marshal, A. S. Stauffer, Palmyra, Pa.

June 20—NASSAU COUNTY FIREMEN'S ASSOCIATION. 30th Annual Parade and Tournament, Westbury, L. I., N. Y. Secretary, James McInnes, Syosset, L. I.

June 22-23—MISSOURI VALLEY CHIEFS' ASSOCIATION. 2nd Annual Convention, Black Hawk Hotel, Davenport, Ia. Secretary-Treasurer, Chief Ray Tiller, Waterloo, Ia.

June 22-25—COLORADO STATE FIREMEN'S ASSOCIATION. 6th Annual Fire College (June 22-23) and 20th Annual Convention (June 24-25), Manitou, Col. Secretary, Clinton Turnbull, 215 Boston Bldg., Denver, Col.

June 22-26—SOUTH DAKOTA FIRE SCHOOL. 7th Annual School, Brookings, S. D. Secretary, M. C. Sullivan, Parkston, S. D.

June 23-25—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 47th Annual Convention, Middletown, N. Y. Secretary, Chief Chris W. Noll, Poughkeepsie, N. Y.

June 23-25—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 14th Annual Convention, Hartford, Conn. Headquarters, Hotel Bond; Exhibits, Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibit Committee, Chief Daniel B. Tierney, Arlington, Mass.

June 23-25—FIRE CHIEFS' ASSOCIATION OF OHIO. 19th Annual Convention, Steubenville, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Fire Dept., Youngstown Sheet & Tube Company, Youngstown, Ohio.

June 24-26—MARYLAND STATE FIREMEN'S ASSOCIATION. 44th Annual Convention, Hagerstown, Md. Secretary, George R. Lindsay, Hagerstown, Md.

July 4-11—ALLEGHENY COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. 22nd Annual Convention, Mt. Oliver, Pa. (Parade, July 11). Secretary, A. H. Leck, McKees Rocks, Stowe Township, Pa.

July 7-10—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS ASSOCIATION. 4th Annual Convention, Grand'Mere, Que., Can. Secretary-Treasurer, Chief Robert Harrington, Fire Dept., McColl-Frontenac Oil Co., Ltd., Windsor Hotel, Montreal.

July 10-11 — EASTERN ASSOCIATION OF FIRE CHIEFS. 9th Annual Convention, Nelson House, Poughkeepsie, N. Y. Secretary, Charles E. Clark, Box 217, Wayne, Pa.

July 17-18—HUDSON-MOHAWK VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Renssalaer, N. Y.

July 27-30—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. 6th Annual School, West Virginia University, Morgantown, W. Va. Director, D. L. McElroy, at the University.

July 28-31—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 64th Annual Convention, Hotel Royal York, Toronto, Ont. Recording Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Ave., Yonkers, N. Y.; Chairman, Exhibit Committee, Chief Roy B. Mottesheard, Dearborn, Mich.

Aug.—CENTRAL DISTRICT FIREMEN'S ASSOCIATION. Annual Convention, one week, date to be announced later. Secretary, Gilbert Coble, P. O. Box 366, Punxsutawney, Pa.

Aug.—UTAH STATE FIREMEN'S ASSOCIATION. 36th Annual Convention, Ogden, Utah. (Exact date to be decided later.) Secretary, John J. Creedon, P. O. Box 25, Bingham Canyon, Utah.

Aug. 4-6—WISCONSIN PAID FIREMEN'S ASSOCIATION. 29th Annual Convention, Waukesha, Wis. Secretary, William Schultz, Sheboygan, Wis.

Aug. 11-13—INDIANA FIREMEN'S ASSOCIATION. 20th Annual Convention, Terre Haute, Ind. Secretary, Burley Marshall, P. O. Box 725, Terre Haute, Ind.

Aug. 11-14—STATE FIRE CHIEFS' ASSOCIATION OF VIRGINIA. 8th Annual Convention, Norfolk, Va. Secretary, Chief E. H. Rouse, Orange, Va.

Aug. 11-14—VIRGINIA STATE FIREMEN'S ASSOCIATION. 50th Annual Convention, Norfolk, Va. Secretary-Treasurer, O. B. Dabny, Staunton, Va.

Aug. 14-15—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention, Greenwich, Conn. Secretary, D. W. Harford, 10 Chestnut Street, South Norwalk, Conn.

Aug. 17-20—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 14th Annual Convention, Lodi, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Ave., San Diego, Cal.

Aug. 18-21—FIREMEN'S ASSOCIATION OF STATE OF NEW YORK. 64th Annual Convention, Tonawanda, N. Y. Secretary, Fred A. Davis, Fort Edwards, N. Y.

Aug. 26-28—DOMINION ASSOCIATION OF FIRE CHIEFS. 28th Annual Convention, Windsor, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

Aug. 29—INDIANA STATE FIRE CHIEF'S ASSOCIATION. Annual Convention, Logansport, Ind. Secretary, Chief Archie McCabe, Muncie, Ind.

Aug. 31-Sept. 3—NATIONAL MUNICIPAL SIGNAL ASSOCIATION. 41st Annual Convention, Hotel Pennsylvania, New York City. Secretary, W. H. Harth, Columbia, S. C.

Sept.—MISSOURI STATE FIREMEN'S ASSOCIATION. Annual Convention, Mountain Grove, Mo.

Sept. 15-16—IOWA STATE FIREMEN'S ASSOCIATION. 59th Annual Convention, Hotel Winchester, Eldora, Ia. Secretary, Paul A. Soener, Independence, Ia.

Oct. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 49th Annual Convention, Pekin, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Chief John J. Brennan, Pelham Manor, N. Y., gave a talk on the hazards of transporting gasoline, to a group of employees of the Colonial Beacon Oil Company at White Plains.

Deasy Talks to Westchester Chiefs

A feature of the regular monthly meeting of the Fire Chiefs Emergency Plan, held at the rooms of the Exempt Firemen's Association, New Rochelle, N. Y., on the evening of Wednesday, April 15, was a talk on "Overhauling" by Former Battalion Chief Deasy, of the New York Fire Department. There were 73 Chiefs and other officers at the meeting, which was presided over by Fire Commissioner Earl Krows, Hastings-on-Hudson, President.

The members were welcomed by Director of Public Safety Philip S. Tilden, of New Rochelle. Judge Hoop, of Bronxville, in reporting for the Legislative Committee, urged all those who had anything to bring before the New York Legislature in the form of local measures to do so through the Legislative Committee of the New York State Firemen's Association, so that a duplication of such bills would not occur.

Ex-Chief Deasy spoke at length on the subject of overhauling. He said that there was absolutely no excuse for a rekindle, after a fire had once been extinguished, and that such an occurrence meant careless and inefficient work in overhauling on the part of the Chief and his men. He treated the subject from the standpoint of fires in apartments, dwellings and the type of small stores that the Westchester men were likely to have to handle. The Chief should have in view—not only in fighting fires but also in overhauling—the reduction of water loss and the lessening of damage. The speaker emphasized the importance of knowledge by the Chief of the stability of the structures in his department, so as to safeguard the lives of his men. He spoke of the dangers, especially in cellar fires, of acids and chemicals stored in carboys. In testing as to whether a fire was entirely extinguished, it was necessary to use the nose, ears and sense of touch. Do as little damage as possible, he urged, but be sure that all fire is out, even if you have to tear out some of the plaster walls to do so.

A rising vote of thanks was given to Chief Deasy for his address.

The President appointed as the Annual Dinner Committee Ex-Chief Travis, Chief Woolley and Captain Dawkins. It was decided to hold the dinner on Wednesday, May 20, probably at Schmidt's Farm, near Scarsdale. The annual election of officers will take place at that time. The Nominating Committee presented the following ticket:

For President—Battalion Chief Roi Woolley, Larchmont.

For First Vice-President—Chief Edward Barth, Elmsford.

For Second Vice-President—Chief Bernard Cropsey, Greenville.

For Third Vice-President—Chief William Livingstone, Tarrytown.

For Secretary (Renominated)—Captain Walter Dawkins, Port Chester.

For Treasurer—Captain Edward H. Siller, Yonkers.

For Directors, Two Years—Earl Krows, Hastings-on-Hudson; Chief Thomas Outhouse, Ossining; Chief John Brennan, Pelham Manor, and Chief Fred Langloh, Rye.

For Directors, One Year—Chief John Gibson, Mt. Vernon; Ex-Chief James Sullivan, Greenwich, Conn., Chief J. A. McCullough, Port Chester, and Chief Thomas Brennan, Verplanck.

Refreshments were served after the meeting by the New Rochelle department.

FALSE ALARMS

PROHIBITED

With the approach of warm weather, two firemen of a southern suburban station parked out in the warm sunshine in front of the station. One read his newspaper, and the other watched the people go by.

An attractive young lady went down the street.

"Do you approve of tight skirts?" asked one.

The other, without looking up from his newspaper, answered:

"No, I don't. Women should let liquor alone."

As one flying bird said to another: "I spotted a couple of big shots at the races today."

TRUE TO TRADE

The department mechanic was in the salesroom looking over some cars, with a view towards buying one.

The overdressed salesman asked:

"Which do you prefer, leather or fabric upholstery?"

"The wife she likes fabrics, but give me leather. They're easier for wiping your hands."

Don't fool yourself, brother. Some who are easiest on the eyes are the hardest on the nerves.

JUST A WASTE

Some of the volunteer firemen were out trying to sell tickets for the department dance. One prospect seemed to resist all sales talk.

"Don't you care for dancing?"

"Nope."

"Why not?" asked the fireman.

"It's merely hugging set to music."

"Well, what is there about that you don't like?"

"The music."

The enthusiasm of the customary clean-up week has been dampened by the tax collector.

FOR HONEST MEN

The examination was about to take place in the auditorium of the main high school. As the men were about to take their places in the large room, the Chief reminded the applicants:

"This examination will be conducted on the honor system. Please take seats three apart and in alternate rows."

You've heard of the optician's daughter? Two glasses and she makes a spectacle of herself.

HOME PRODUCT

A salesman for a local equipment company was very much incensed that the city should award the contract to a competing firm outside the state. He told the Mayor how he felt about the matter. He said it reminded him of Old Lady Murphy.

She went to the grocery store to buy some sardines. She was told that there were two kinds: one for thirty cents a can and the other for twenty cents.

"What makes these here so high?" said Mrs. Murphy looking at the more expensive can.

"They're imported sardines."

"Well, give me the others—them as had the brains to swim over to this country."

Even a tombstone will say good things for a fellow when he's down.

ANYWAY, HE FELL

"He had been away at the end of the week attending a state convention. When he arrived home he fell on his face and kissed the pavement in front of the station."

"Emotion."

"No. Banana skin."

WRONG VOCATION

After a particularly hard shift, a fireman had to walk the floor a good part of the night trying to pacify two of his youngsters. The next day he related his experience to the desk man.

"It was two o'clock in the morning and I was walkin' up and down the floor wid me bare feet on the oilcloth, wid a cryin' child on each arm. I couldn't help but remember that me father didn't want me to be a fireman but wanted me to be a priest. But I thought I knew better than he did."

A true woman is one who can hurry through a drugstore aisle eighteen inches wide without brushing against the piled-up tinware, and then drive home and knock the doors off a twelve-foot garage.

TOO RADICAL

He had been studying for a promotional examination. So many hours and evenings of continuous study had its effect, for after he had gone to bed one evening he groaned and tossed about as though in great mental distress.

His wife, who had been disturbed, shook him by the shoulder.

"Dear, dear, wake up! Wake up!"

A cold sweat was on his brow.

"Oh, gee! What a horrible nightmare. I dreamed our little Tommy was a number under the square root sign and I couldn't get him out."

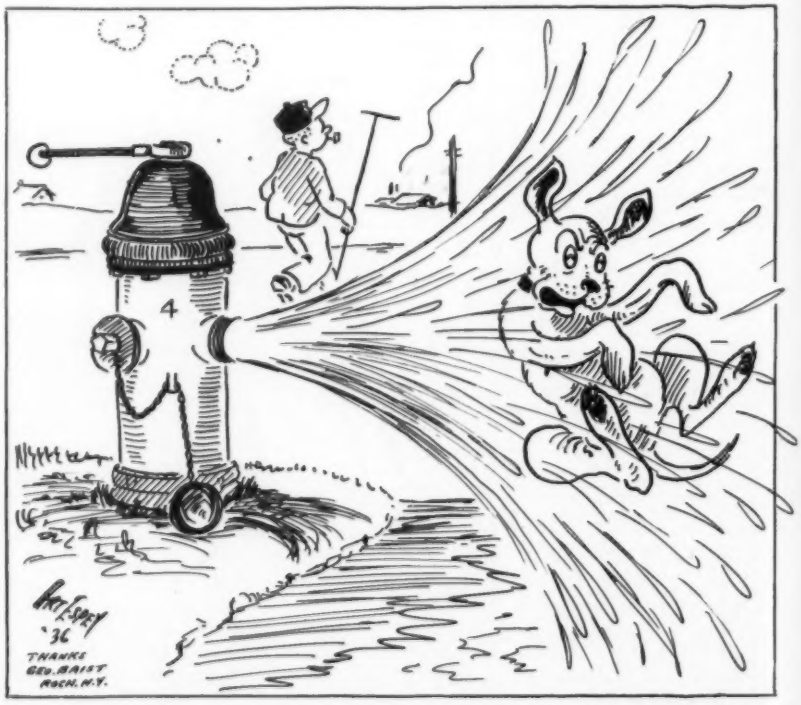
STATION TALK

"Give me a match, Bill."

"Here it is."

"Well, can you beat that? I've forgotten my cigarettes."

"S'too bad! Give me back my match."



Drawing by "Art" Espey

Even a Hydrant May Have Its Day

FREE INFORMATION

JUST run down the list of equipment and jot down on the coupon below the numbers that indicate the equipment in which you are interested. Then fill out rest of the coupon and mail it to us.

We will then request the leading manufacturers of such equipment to send you descriptive literature and prices direct without any cost to you or obligation whatever.

The manufacturers we notify will gladly do this because they are advertisers and good friends of this publication and want to cooperate with our readers in every way possible in the improvement of their departments.

So help yourself!

1 Acid Siphons
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3 Acid Jars and Rings
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5 Aerial Trucks
6 Alarms, Sirens, Electric
7 Alarm Systems, Industrial
8 Alarm Systems, Municipal Telegraphic
9 Alarms, Thermostatic
10 Asbestos Equipment
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars
14 Battery Zincs for Fire Alarm Batteries
15 Bells, Fire Alarm, Municipal
16 Body Equipments
17 Boxes, Gongs, Reels, Registers, Fire Alarm
18 Brakes, Air
19 Brake Linings
20 Brooms, Fire
21 Building Materials, Fire Retardant
22 Caps, Firemen's
23 Chains, Non-Skid, Fire Apparatus
24 Chassis for Fire Apparatus
25 Chemical Engines and Tanks
26 Chimney Fire Fuses and Compounds
27 City Service Trucks
28 Coats and Suits, Firemen's Quick Hitch
29 Combination Chemical and Hose Cars
30 Cutting and Welding Equipment, Blow Torch
31 Cutting and Welding Equipment, Electric
32 Deluge Sets
33 Door Openers, Fire Station, Automatic
34 Electric Light Plants
35 Extinguishers, Calcium Chloride
36 Extinguishers, Carbon Dioxide
37 Extinguishers, Soda-Acid
38 Extinguishers, Carbon Tetrachloride
39 Extinguishers, Foam
40 Extinguishers, Powder
41 False Alarm Prevention
42 Fire Boat Nozzle Equipment
43 Fire Department Supplies, General
44 Fire Exit Devices, Door Opening
45 Fire Alarm Posts
46 Fire Escapes, Portable
47 First Aid Equipment
48 Flare Lights
49 Flashlights, Hand
50 Flood Lighting Equipment (Lamps, Cable, Reels, etc.)
51 Foam Generating Apparatus
52 Foam Liquid for Extinguishers
53 Gas Masks and Respirators
54 Gas and Smoke Helmets
55 Gas and Smoke Generators
56 Goggles, Firemen's
57 Helmets, Metal, etc.
58 Hose Bridges
59 Hose Carts, Reels and Racks
60 Hose Clamps
61 Hose, Fire
62 Hose, Chemical
63 Hose Holders
64 Hose Jackets
65 Hose Standardization Tools
66 Hydrant Draining Pumps
67 Hydrants, Fire
68 Jacks for Fire Trucks
69 Jacks, Shoring and Prying
70 Ladders, Fire
71 Lightning Arresters
72 Motorcycles, Fire Dept. Equipped
73 Nets, Life
74 Nozzles, Pipes and Miscellaneous Brass Goods
75 Packings, Pump
76 Pads, Pole Hole
77 Paints, Fire Resisting
78 Priming Ether, Motor
79 Pumping Cars, Standard
80 Pumping Cars, Foam
81 Pumps, Fire Apparatus
82 Pumps, Fire Service, Stationary
83 Pumps, Portable for Fire Protection
84 Record Books, Fire
85 Relief Valves
86 Reviving Apparatus, Oxygen
87 Rubber Clothing
88 Salvage Covers
89 Searchlights
90 Shingles, Fire Retardant
91 Shirts, Firemen's Special
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107 Tractors
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109 Triple Combination Pumping Cars
110 Uniforms
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112 Wheels, Cushion
113 Whistles, Fire Alarm, Compressed Air
114 Whistles, Fire Alarm, Steam
115 Whistles, Fire Apparatus
116 Wrecking Trucks

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5-36

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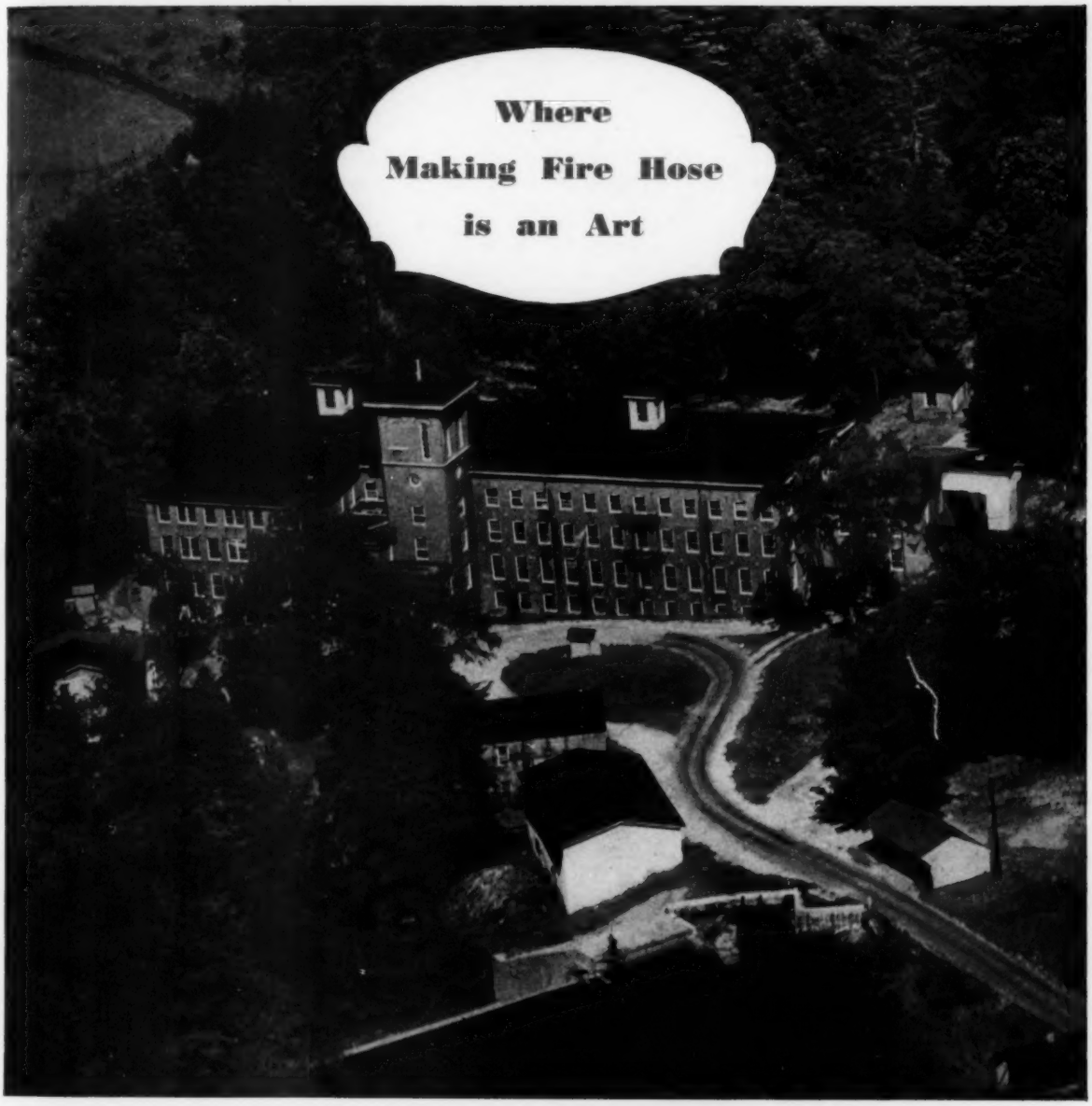

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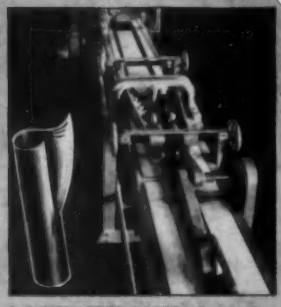

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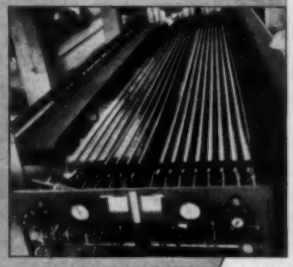

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